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ABSTRACT

This document describes and presents the results of a project whose general purpose was to field test a set of activities that could upgrade the quality and effectiveness of research and evaluation activities in large urban school districts. Three aspects of this problem were addressed: The need for better conceptual models for evaluation in the school setting; the need for specially-trained, entry-level personnel for school research divisions; and the need for expanding the knowledge and skills of existing staff. The document concludes with a summary of the success of the project and with recommendations regarding evaluation problems in large urban school districts. The appendixes include overviews and outlines of various courses in the training program, the agenda of various training sessions, suggestions for improvement in the courses, and a selected bibliography for a course on classroom research. (Author/DN)

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FINAL REPORT

Project No. 8-0858
Grant No. OEG-0-9-230858-4629 (010)

GREAT CITIES
RESEARCH INTERN TRAINING PROGRAM

The Council of the Great City Schools
Suite 850
1819 'H' Street, N. W.
Washington, D. C. 20006

September, 1971

U. S. DEPARTMENT OF
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The principal responsibility for the Teachers College portion of the project was assumed by Francis Ianni and Barbara McNeill. Frances Green took major responsibility for Part Two, Course Two; and Felice Gordis is responsible for Part Two-Section C. Bruce Dollar provided much o the material for Part Two, Course One, Lesson Six, and Joan Gussow provided editorial assistance for Part Two, Course Two. In addition, consultation was offered by Frank Smith, Edward Storey of the University of Georgia, and Stephen Klien of U.C.L.A.

Finally, personnel from the member districts of the Council of the Great City Schools were fully cooperative. Special mention is due the Great Cities superintendents and their research directors. Overall guidance for the project was provided by the Research Steering Committee of the Great City Schools, of which Joseph Mazur of Cleveland (now of the University of South Florida) was chairman.

SUMMARY

In the spring of 1969 three organizations, The Council of the Great City Schools; Teachers College, Columbia Univeristy; and the School District of Philadelphia, were brought together to discuss the possibility of a research training program which could upgrade research and evaluation activities in the nation's largest school districts. A joint proposal was prepared and the project funded, with the Council serving as prime contractor, and the other two organizations involved in a cooperative arrangement.

The general purpose was to field test a set of activities which could upgrade the quality and effectiveness of research and evaluation activities in large urban school districts. Three aspects of this problem were addressed: 1) The need for better conceptual models for evaluation in the school setting, 2) The need for specially-trained entry-level personnel for school research division, and 3) The need for expanding the knowledge and skills of existing staff.

Problem one, the need for better conceptual models, was handled by Teachers College. Under the general direction of Francis A. J. Ianni, Teachers College staff developed what might be described as an anthropological or "naturalistic" approach to evaluation. The model is designed for application in real-life settings and does not depend on experimental controls. It relies heavily on observation as an information source; its data are largely qualitative in nature, i.e., they are produced through judgments; it requires a team whose members have different types of expertise and different levels of experience; and it is oriented toward the support of administration and of decision making in the operating school district.

In addition to developing and field testing the model, Teachers College designed a program to train people in its use. Two broad courses were worked out in detail, and descriptions of them are included in the report which accompanies this summary. Briefly, the courses are:

> One, An Overview of the Theory of Evaluation and the Rationale and Design of Evaluative Studies.
>
> Two, Qualitative Date--its Collection and Analysis: An Approach to Problem Solving.

Problem two, the need for specially trained entry-level personnel for school research divisions, was addressed The School District of Philadelphia through its Office of Research and Evaluation. The approach was based on the premise that the school research specialist needs, in addition to a wide-ranging set of technical skills, an understanding of the context in which he will work and of the ways skills can be used effectively in the particular feal-life setting. The program had the following components:

An on-the-job training experience in which the trainee served one semester in each of the three divisions (Instructional Research and Development, Administrative and Survey Research, and Testing) of the District's Office of Research and Evaluation.

An Academic program in which trainees pursued a Master of Education degree in Educational Research and Measurement at the University of Pennsylvania.

A summer workshop in which trainees pursued individual projects using simulated data, and in which they were trained in computer applications.

A seminar in which trainees had the opportunity to share experiences and concerns and to investigate pertinent topics of interest.

An independent project in which the trainee had the opportunity to carry out a complete study under the guidance of a knowledgeable sponsor in the School District.

The on-the-job and university components were carried out simultaneously, providing for an interaction of formal skill development and real-life experience.

Seven trainees participated in the Philadelphia portion of the project. Three took jobs in city research division staff, was handled by the Council of the Great City Schools. (The Council as prime contractor, also had responsibility for overall coordination of the program.)

A highly individualized approach was used by the Council. Persons with some background and experience in research were recruited and brought to the Council offices in Washington, D.C. Interns came from the Cleveland Public Schools, the School District of Philadelphia, the University of Missouri in St. Louis, the University of Wisconsin, and the University of South Florida. Each intern selected one or more areas of special interest and he worked within the Council and its 21 member districts to help conceptualize and implement improvement strategies. Substantive areas selected were: large city testing problems, performance contracting and accountability, career development, special evaluation problems encountered in Title I of the Elementary and Secondary Education Act, education of young children, and exchange of evaluative information among large urban school districts.

Through the Council experience, the interns had a unique opportunity to work with the most knowledgeable persons within the nation's largest school districts, with representatives of the U.S. Office of Ecucation and other leading national experts in the respective areas of concern. They also attended meetings of the Great City superintendents in which a broad range of issues confronting the large urban school districts were discussed.

Five interns went through the Council portion of the program. Three of these took middle-level positions in research divisions in Council member districts at the program's conclusion. One took a position with a private educational consulting firm, and the other went to work for a state agency. The important point is that each emerged with a higher-level and more responsible position than he had previsouly held, and each remains in the field of education.

Overall, the Great Cities Research Training Project can be counted a success. It generated and successfully tested models for solving some of the most difficult school evaluation problems. Within this larger context, it identified a number of procedural problems and suggested ways these should be overcome. Finally, it provided a success experience for about 80 percent of the persons who entered it either as trainees or interns. It did not solve the evaluation problems of the large urban districts, of course, but it took an important first step toward developing solutions.

I. DESCRIPTION OF THE PROJECT

A. Background

The Need. -- Research and evaluation has taken on greatly increased importance in large city school systems in recent years. From the local perspective, school systems have become increasingly aware of the need to improve their management and decision-making capabilities; in fact, they find themselves in a crisis of such proportions that they must improve or face their demise as viable institutions within the society. At state and national levels, there have been requirements for systematic evaluation which shows actual program results and which serves as the basis for allocation of resources, and evaluation demands are becoming more stringent. Local, state, and national needs for valid evaluative information cannot be met, in large city school systems at least, without significantly strengthening the capabilities of school research and evaluation divisions.

The nature of the need for improved research and evaluation capability in large school systems has become increasingly apparent since 1965. Experience, beginning primarily with implementation of Titles I and III of the Elementary and Secondary Education Act of 1965, demonstrated decisively that existing research organizations were not capable of meeting the demands placed on them, and methods of increasing the capability became a prime concern of school research directors, as well as superintendents and other high=level administrators. University researchers also recognized the need; they had experienced great frustration in attempting to assist school districts in evaluation efforts, and many turned their attention to the development of new methodologies. At the most general level, the problem was an inability to produce information which was useful to decision makers and which could help in improving programs.

As recently as six years ago, the major responsibilities of educational research divisions in public school systems were limited largely to running testing programs and to administrative data gathering. As the situation changed and demands increased, public school research organizations became more and more aware that they desperately needed: (1) more workable models for the kinds of evaluation activities demanded of them, (2) more adequately trained personnel to design and conduct evaluative activities.

Planning of the Project -- Against this background, three organizations in the Spring of 1969 submitted separate proposals addressed to particular aspects of the problem, for funding under the Research Training Program of the U. S. Office of Education (OE). The three were the Council of the Great City Schools, Teachers College of Columbia University, and the School District of Philadelphia. OE officials recognized overlap in both purpose and methodology among the proposals and called representatives of each organization together to discuss a common effort. Joint planning ensued, and a single proposal was prepared and submitted and was subsequently funded.

Because of its position as a consortium of the largest urban school districts, the Council of the Great City Schools was chosen as prime contractor, with a portion of project activities to occur within Council offices. The Office of Research and Evaluation of the School District of Philadelphia was to handle certain training activities under a subcontract, and Teachers College, Columbia, was to handle model building and planning activities under a purchase of services agreement. The project was originally scheduled to run from August 15, 1969 through August 15, 1970. An extension to June 30, 1971, was requested and granted.

The Council of the Great City Schools was the natural agency to handle the prime contract because of its critical position as a source of information and as a facilitator of research activities in the nation's largest school districts. Furthermore, the Council is in a central position in regard to efforts to improve education for cultrually disadvantaged and economically deprived children. In addition to securing services from the Philadelphia schools and Teachers College, the Council was responsible for obtaining other consultant and university services required by the program.

B. Objectives

The project had these general goals:

To study research and evaluation problems of special concern to large city school systems.

To facilitate and coordinate activities designed to provide immediate solutions to some of these problems.

To develop an ongoing internal research capability within the Council of the Great City Schools so that developing research and evaluation needs of large city school systems can be met.

To develop methods for the evaluation of qualitative variables in education and to develop training models for preparing researchers to use these methods.

To develop and conduct an effective training program to meet the specialized research and evaluation needs of city school systems.

To disseminate findings and practices which show promise of improving research and evaluation activities in the Great Cities.

The Council portion of the project had the following specific objectives:

To survey the existing roles of researchers and evaluators in member cities and to determine the need for role changes.

To assist the Philadelphia Schools and Teachers College in developing conceptual evaluation models and to cooperate in field testing of these models.

To conduct a training program for research interns which would develop competence to:

Develop reliable instruments for gathering accurate information related to educational problems.

Organize, analyze, and reduce raw information so that accurate and understandable reports can be prepared.

Organize and conduct information gathering activities through surveys, interviews, observations, paper-and-pencil instruments, and search of literature and other relevant documents.

Prepare proposals.

Conduct basic statistical analyses and make tenable inferences from them.

The Teachers College portion of the project had these objectives:

To develop a conceptual model for the evaluation of qualitative variables at the public school level in education.

To develop methods that will permit researchers to evaluate these variables in quantifiable terms and to relate obtained results to other evaluation data.

To develop a related training model for the preparation of researchers in the use of these methods.

The Philadelphia portion of the project had the following objectives:

To develop the design and analysis skills needed for the conduct of evaluation activities in public school districts.

To develop knowledge of the political and organizational realities which must be dealt with in conducting evaluation activities in school districts.

To develop skills in analyzing and reporting evaluative information so that the decisions of relevant school district staff are appropriately influenced.

To develop the interpersonal skills necessary to successfully plan and conduct evaluation activities in school systems.

To develop, through on-the-job training, the ability to plan, implement, and conduct evaluation activities in school districts.

To develop commitment to school district research and evaluation efforts, so that trainees remain in the public school setting after the program is completed.

C. Responsibilities of Cooperating Agencies

The Council of the Great City Schools -- As noted, the Council had two major responsibilities in the project. First, the Council was prime contractor and coordinated the total effort. This included monitoring the activities occurring in the Philadelphia schools and at Teachers College, Columbia University. The Council was the agency ultimately responsible, therefore, for meeting all project objectives.

The Council component was designed for interns with some previous experience in the research and evaluation field. Interns, already with some capability for working in public schools, were to be given a broader perspective and to develop specific skill areas more highly. They would serve in the Council offices in Washington, work on problems common to the largest school districts, help develop proposals, meet with U. S. Office of Education representatives, and have other experiences of this type.

To conduct itw own component and to coordinate the other program segments, the Council was to employ a full-time Project Director and it was to be responsible for preparation of the final report of the project and for dissemination of project findings.

Teachers College -- Teachers College was responsible for generating both a theoretical framework, and a set of methods for evaluating qualitative variables in education with the same precision and replicability that characterize quantitative evaluation. Teachers College was further responsible for developing a training program for the preparation of research personnel in the use of its evaluation model. Pilot testing and refinement of the model, and training of research interns in use of the model were to be concurrent activities. Teachers College was further to compile relevant literature on related research methods and prepare a position paper on the general subject. Finally, Teachers College was to cooperate with the Council in the training of Council interns.

The School District of Philadelphia -- The Office of Research and Evaluation of The School District of Philadelphia was responsible for conducting a specialized training program to prepare trainees for research and evaluation activities in city school systems. This training effort combined on-the-job experience in the Office of Research and Evaluation with academic training conducted by the University of Pennsylvania. The Philadelphia portion of the program was designed to last some twenty-one months (two full academic years, plus a summer term), and trainees were to receive an M.S. degree in educational research, providing they met all requirements of the University.

The Philadelphia component was designed for trainees with no previous research and evaluation experience. The idea was to take promising young college graduates, with a year or two of teaching experience desirable but not required, introduce them to the public school research and evaluation field, and train them to operate effectively in this setting. It was therefore of more limited scope than the Council component, where a national perspective was to be developed.

Summary of Project Components -- In summary, the three components of the project were all directed toward improving the evaluation capabilities of large-city school districts but each component addressed a district portion of the overall problem.

> The Council of the Great City Schools took as interns persons who already had training and experience in evaluation. It gave each intern the opportunity to pursue an area of individual interest in great depth and, in doing so, to work with knowledgeable personnel from the nation's largest school districts, the Office of Education, and other appropriate agencies. It also provided a national perspective on problems of urban education and on application of evaluation techniques to these problems.
>
> The School District of Philadelphia took trainees without previous experience in the evaluation field. Through a joint program of on-the-job training and formal course work. The trainees were prepared for regular staff positions in school research offices.
>
> Teachers College worked on development of a new evaluation model and on a program of training in use of the model. It focused on use of qualitative variables in evaluation design, an area which experience has shown to be one of the most difficult in school district evaluation efforts.

II. PROJECT ACTIVITIES OF THE COUNCIL OF THE GREAT CITY SCHOOLS

a. Startup and Selection of Interns

Project activities began on August 15, 1969, with Mr. Jack I. Marcussen of the Council staff serving as interim project director. Initial activities involved completing contractual arrangements with Teachers College and with the School District of Philadelphia, and beginning the search for a permanent project director.

In searching for a director, the Council initially compiled a list of some 65 persons across the nation. Further discussion and interviews led to the conclusion that it would be desirable to select a person with experience as a research director in one of the larger school districts, and the Council finally focused its attention on the membership of its own Research Steering Committee. This was a six-member group, elected by the research directors of the Council's member districts, which had played a primary role in development of the proposal. A second round of intensive interviews was conducted, and the position was finally offered to Dr. John L. Hayman, Jr., Executive Director of Research and Evaluation of the School District of Philadelphia. Dr. Hayman accepted and assumed responsibility for the project on a full-time basis on January 15, 1970.

After meeting with representatives of Teachers College and the Philadelphia schools to discuss progress to date and to outline next steps in the project, the director turned his attention to selecting interns for the Council's component.

The original plan had called for six interns, but increasing costs plus the need for an extension of the project caused by the delay in selecting a permanent director forced the number of interns to be reduced to five. Names of candidates were solicited from member districts, as well as from the Office of Education and from universities close to or in member cities. A selection committee, consisting of the following individuals, was established:

Dr. John L. Hayman, Jr.
Project Director

Mr. Jack I. Marcussen
Council Staff and Former Interim Project Director

Dr. Oscar Hankinson
Principal and Former Research Staff Member
The School District of Philadelphia

Interviews were conducted, and four interns were initially selected, as follows:

Mr. Jerry Calendine
Research Staff Member
Cleveland Public Schools

Mr. William Denton
Former Principal and Doctoral Candidate in
Educational Research
The University of Wisconsin

Mr. Jack Stenner
Former Teacher and Master's Candidate
The University of Missouri at St. Louis

Mr. Edward Whitney
Research Staff Member
The School District of Philadelphia, and
Doctoral Candidate in Educational Psychology
Wayne State University

The initial four interns joined the Council staff in February and March of 1970. Interviews continued, and the fifth intern was selected in June. He was:

Mr. James Van Orden
Former Teacher and Doctoral Candidate in
Educational Research
The University of South Florida

As noted, an objective in the Council's component was to tailor each intern's experiences according to his needs and his particular research interests. In line with this philosophy, each intern had a set of unique experiences. Mr. Whitney chose to work in the area of information dissemination and utilization, Mr. Calendine was assigned to work with testing issues which confront large school systems, Mr. Denton worked with broad evaluation problems in large school systems and with developing instructional systems in vocational and technical edcuation, Mr. Stenner worked with and became a leading authority in performance contracting and Mr. Van Orden was assigned to the problem area of packaging and presenting information in the most meaningful and usable way.

In addition, a common set of experiences was provided all interns to meet the objectives of developing a broader national perspective and developing knowledge of research and evaluation problems which confront all large city school districts. The interns met regularly with Council staff, and they attended a special one-week session organized by Teachers College. In addition, they attended three research training seminars which were conducted by the Council under a different program, "Improving Research Capabilities of Large City School Systems (OE Grant No. OGE-0-9-203495-4432 [010])." The seminars will be explained in more detail later in this report.

b. Experiences of Individual Interns

As noted, each intern had a set of unique experiences in the program, depending on his interests and his skill areas. A description of each intern's experiences follows:

1. Jerry Calendine

Mr. Calendine was a Research Assistant in the Division of Research and Development, Cleveland Public Schools, prior to his internship with the Council. Because of experience in the testing program in Cleveland and an interest in educational psychology, he was assigned to the area of testing.

As early as it's Fall 1969 meeting, the Council's Board of Directors, composed of superintendents and Board of Education members, had identified testing as one of the areas of high priority to be investigated by the Council staff. Possible inadequacies of the test instruments for inner-city children; the inappropriateness of test norms for urban students; and the relationships between testing and educational policies were expressed concerns.

Mr. Calendine's internship at the Council was primarily focused upon these problems and issues surrounding standardized testing of children in public schools. The Washington location of the Council provided many nearby resources for study and input to this type of activity. The Office of Education, the Office for Civil Rights, the National Educational Association, and the Library of Congress placed at the Council's disposal excellent library facilities. Government officials, test publisher representatives, and public school testing/research specialists from Council member cities cooperated in the study of testing issues.

As a preliminary step in the investigation of the issues of standardized testing, Mr. Calendine, in cooperation with the project director and other Council staff, planned and conducted a survey of the 21 city school districts which then comprised the Council of the Great City Schools. The results of this survey (Appendix A) gave a better understanding of testing practices and helped focus major issues in the testing area. Also, it identified the publishers who provided the great majority of tests used in the largest school districts.

With survey results in hand, Mr. Calendine and the Council staff arranged a series of meetings with representatives of the Office of Education, the HEW Civil Rights Office, and with various persons from member school districts. The focus was on a better understanding of needs and issues in testing. The Council's Research Steering Committee met to provide guidance to the investigation.

Follow-up meetings were held with test publishers in the attempt to develop a cooperative plan to deal with some of the issues of standardized testing. One of the most significant outcomes was agreement by Science Research Associates to prepare special Great City norms for the tests it standardized in the spring of 1971. Other publishers agreed to cooperate in like manner in their won standardization or restandardization efforts in later years. To assist in the 1971 standardization, Mr. Calendine worked with SRA representatives to create an ethnic/racial matrix of schools within the Council membership.

Mr. Calendine also assisted in the preparation of a proposal which would provide resources for the Council to pursue its study of testing issues in greater depth. He participated in meetings with Office of Education and Civil Rights Office representatives in outlining the proposal and in attempts to secure funding.

As a result of his studies with the Council, Mr. Calendine has noted that testing problems result from misunderstanding and/or misdirected effort on the parts of at least three groups: School Administrators, Test Publishers, and Community members.

"The use of standardized tests," he states, "enables school administrators to objectively sample a measure of pupil performance with an instrument constructed so as to provide:

1. A common denominator from school building to school building . . . from one section of the country to another section;

2. A test instrument with expertly developed and perfected items.

"A serious problem has emerged in recent years for school administrators, and it realtes to the selective population movement of middle class whites to the suburbs and the growing concentrations of large communities of minority groups in the central city. Using standardized tests that are constructed from a "representative national sample" of students, inner-city school administrators are now responsible to communities that in no way resemble the ethnic/racial composition of the nation. At one time the concept of a national sample and a test geared to that national cultural norm may have had a legitimate defense, but the current policy is nearly untenable to minority groups that have been socially and culturally isolated."

With regard to test publishers, Mr. Calendine notes a tendency to resist change with considerable "vehemence" and to place the blame elsewhere for the misuse of test results. "Despite numberous attempts to help them understand the issues being raised, test publishers continue to insist upon drawing their 'representative national samples' of children ignoring the fact that their 'market' for these tests is the large cities. The argument that urban or local norms are provided does little to satisfy critics who point out the middleclass orientation of standardized test items. Granted, test publishers must accept or define some cultural standard on which to base their tests, but it is doubtful by the very nature of the sample-selection processes whether test publishers have adequately researched test items to ensure culture fairness."

The major problem so far as communities are concerned, Mr. Calendine concludes, is their lack of understanding of what tests are supposed to do and their use of test results in contradictory ways. Community representatives will, on the one hand, note the cultural bias of tests and state with great conviction that obtained results are invalid. On the other hand, they will use these same results as a club, using them as an indication that the schools are not doing their job well. One argument states that the tests are invalid; the other assumes that they are valid.

At the end of his internship and year of study with the Counil, Mr. Calendine drew up the following list of recommendations with regard to testing:

1. Superintendents of public school systems should ask test publishers for evidence that test items are being tested and examined for cultural fairness.

2. Public school testing personnel should perform their own item analyses of standardized test results, particularly where large concentrations of minority group children are found in their district. Sound judgments may then be made with documentation should the use of tests be examined in the courts.

3. The purposes of standardized testing should be more clearly defined by school administrators. Do these tests in fact aid instruction? This should be weighed against teacher-made tests or locally-constructed tests, where immediate feedback (discussion) may take place after the testing situation. In such instances, the poorest constructed test item may promote class discussion, clarification, and learning. After defining the role of standardized tests, a school system should be in a position to more reasonable decide the proper balance of types of tests to be used.

4. Implied in (3) above is a review of practices of testing. School administrators should be able to defend their practices with regard to the use and disclosure of standardized test results. This may involve a review of student placement policies as well as procedures necessary to communicate with the press, civic, and educational organizations.

Mr. Calendine returned to the Cleveland Public Schools as a Research Associate at the conclusion of his internship.

2. William T. Denton

Mr. Denton was in the doctoral program in educational research at the University of Wisconsin when he joined the Council as an intern.

His experience had included seven years as a classroom teacher and four years as a high school principal. With the Council he took as special interest areas general evaluation problems in large city schools and improvement of career education.

When Mr. Denton arrived, the Council was in the midst of a study funded by the Office of Edcuation's Division of Compensatory Education and titled, "Title I in the Great City Schools: An Analysis of Evaluation Practices and Exemplary Projects." Because of his extensive experience as a public school teacher and administrator, he was made a co-director of the project and had been included in earlier planning sessions. The purposes of the project were "to identify successful Title I Projects whthin member districts (of the Council), determine some of the reasons these projects were successful, study Title I evaluation practices, and, from the perspective of local district personnel, identify special problems related to Title I evaluation and make recommendations for improving evaluation practices."*

In conjunction with this project, Mr. Denton first helped to organize and conduct a conference of Great City Schools representatives in Lake Placid, New York, in June of 1970. Mr. Denton was specifically responsible for collecting and summarizing information produced at conference sessions each day, for preparing an overall report of the conference, and for helping to integrate information produced by the conference with other information to produce the final report of the larger project. Other information had been collected through a series of site visits, interviews with research directors and project directors, and questionnaires completed by research directors and federal program directors.

Mr. Denton worked with project staff and with the Council Research Director in analyzing information, drawing conclusions, and preparing a report which would meet the needs of the Division of Compensatory Education. The report was completed and delivered on time, and it has been cited as probably the best existing statement on Title I evaluation practices and problems. Mr. Denton contributed significantly to the success of the effort, and the insights he gained were invaluable in his own development as a public school research and evaluation specialist.

Mr. Denton's second major interest area with the Council was Career Education. The Council Board of Directors had made career education a priority concern and had directed the organization to renew its efforts in this area. (The last career education project had been completed in 1968.) Prior to Mr. Denton's arrival, meetings had been held with representatives of the Council, the Office of Education, and with the American Institutes of Research, which was conducting a developmental project in career education in Quincy, Massachusetts. It had been determined to hold a conference to define career education problems of the large urban school districts more precisely and to outline a plan of action in career education for the Council. This conference was held about one month after Mr. Denton's arrival, and he shared responsibility for collectingaand analyzing the information produced.

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*Hayman, John L., Jr., et.al. "Title I in the Great City Schools: An Analysis of Evaluation Practices and Exemplary Projects." Washington, D.C. The Council of the Great City Schools, 1970. (MIMEO.) p.1.

The primary outcome of the conference was a decision to seek funding for a large developmental project to be conducted by the Council. The strategy was to identify the job families in greatest need of instructional improvement, determine which city would undertake responsibility for each job family, derive sets of common (across city) objectives, devise a common strategy for instructional systems development, and, through a carefully coordinated and articulated effort, revamp career education in the urban school districts. The planning requirements for this kind of activity were, of course, enormous.

A planning committee was established, with Benjamin Whitten, of the Baltimore City Schooks, as chiarman. Both the Executive Vice-President and the Research Director of the Council were closely involved. Mr. Denton served as a kind of secretary-research assistant-writer for the committee. He attended all committee meetings with Office of Education representatives, and he took notes and prepared minutes for meetings. He also did extensive library research on various aspects of the problem area. As efforts began to prepare drafts of a proposal, Mr. Denton was given various writing assignments.

Reaction to early efforts was favorable, and the Council was encouraged to prepare a proposal for a planning grant to facilitate the effort. Mr. Denton participated in discussions of the outline and content of the planning proposal, and he took major responsibility for writing of the proposal. The proposal was approved and a grant received.

The funded career education planning project became operational after Mr. Denton had been a Council intern for some eight months. Because of the capability he had demonstrated and of his willingness to take responsibility, he was asked to serve as temporary co-director of the project. He held this position through the remainder of his internship.

Mr. Denton also assisted the Council in planning for and conducting a workshop on project planning and evaluation for the School District of Philadelphia. The workshop, held in December of 1970, was for principals and other middle-management personnel in one of the Philadelphia's eight administrative districts. Mr. Denton made a one-hour presentation at the workshop, and he helped to conduct the workshop evaluation,

After completing his internship, William T. Denton accepted a position as research associate with the Research Division of the Dallas Independent School District. He is currently serving with the Dallas schools.

3. Alfred Jackson Stenner

Prior to his selection as a Council intern, MR. Stenner had been a teacher in a clinic for emotionally disturbed children in St. Louis and was enrolled in a master's program at the University of Missouri at St. Louis. His undergraduate work had been in psychology and education, and his graduate work was in education administration. Mr. Stenner's recommendation for the internship came through the St. Louis city schools, who had learned of him from representatives of the local branch of the state University. University faculty described him as the most outstanding student in educational administration in the history of their institution.

His professional experience prior to joining the Council was as follows:

1967-68	Caseworker-Aid to Dependent Children Unit, Missouri Division of Welfare. Primary responsibility included certification for payment and case reviews. Area of responsibility, inner-city, St. Louis.
1968-69	Houseparent-Evangelical Childrens Home, Normandy, Missouri. Primary responsibilities involved acting as surrugate parent for twelve girls ages 5-12. This position involved live-in arrangement in family situation.
1968-70	Teacher, Research-Child Center, St. Louis, (Clinic for emotionally disturbed children.) Responsibilities included teaching a group of 12 emotionally disturbed boys, ages 5-13. Research work included work with token economies and hyperkinetic children.
1969-70	Assistant Basketball Coach, University of Missouri, St, Louis. Responsibilities involved daily coaching duties and scouting.

During the first two months of Mr. Stenner's intership, he was involved primarily with proposal development and program planning. During this time he worked closely with the Council's research director and concentrated on the early childhood education area.

In april of 1960 the Council was informed of the Dallas Independent School District's experiment with performance contracting. Mr. Stenner was asked to spend some time in Dallas to learn about the school district's efforts toward innovation and to contribute what assistance he could as a Council representative. Mr. Stenner described the Dallas experience as " the most professionally exciting and challenging experience of my life."

Dallas had just begun to plan a large scale comprehensive performance constructing project. Mr. Stenner became heavily involved in this planning effort due primarily to Mr. Rogers Barton, the District's Associate Superintendent for Development. Mr. Barton provided extensive one-to-one instruction in planning and management techniques during the period Mr. Stenner was in Dallas; Mr. Barton's years of experience as a university research director and director of development of a regional laboratory made Mr. Stenner's training indeed a unique experience.

Mr. Stenner impressed with his overall ability and his willingness to take responsibility, and he was requested by the Dallas Schools, and subsequently authorized by the Council, to act as director for management support services of the Dallas Guaranteed Student Performance and Training Project. The quality of the planning and the subsequent develop effort related to this project gave the project and Mr. Stenner national exposure.

The remainder of the internship was spent fulfilling obligations as director of Management Support Services, making presentations on performance contracting and educational program auditing, and writing on the above topics.

Following is a list of publications and presentations made by Mr. Stenner during internship. These items are indicative of the wide exposure and breadth of the experience he received as a research intern with the Council.

--with Hayman, John L., Jr.
"Television Behaviour of Young Children",
Educational Television, May, 1970.

"Education Performance Contracting",
United States Office of Education, Accountability
Manual, 1971 (in press).

"Performance Objectives in Education",
United States Office of Education, Accountability
Manual, 1971 (in press).

--With Webster, William and Eichelberger, Tony R.
"A cost-Effective Formula for Performance Contracting",
Journal of Education (in press).

--With Hayman, John L., Jr.
"Student Performance as an Aspect of Accountability in
Education", (David Bushnell, ed.), A Systems Approach
to Innovation in Education. Harcourt, Brace and Javanovich.

--with Waldrip. Donald R.
"Education Performance Contracting: The Dallas Project",
Texas Outlook, 1971 (in press).

Monograph: "Education Performance Contraction",
The Council of the Great City Schools, 1971.

--with Keane, Michael
"Education Performance Contracting: Varied Approaches",
Journal of Educational Leadership, April, 1971

"Education Performance Contracting: Some Policy and
Legal Considerations", submitted for publication.

"Performance Contracting: Six Operational Models",
Paper read at the annual meeting of the American
Educational Research Association in New York, N.Y.,
February, 1971

"Management Innovations in Education", Paper read at
the U.S.O.E. Conference on Accountability, Washington,
D.C., 1970.

"Performance Contracting: A General Overview" and
"Planning a Competitive Performance Contracting
Project", Papers presented at the Regional Inter-state
Project Program, Phoenix, Arizona, March, 1971.

"Performance Contracting: A Management Tool"
Paper presented at the American Management Association,
New York Seminar on Educational Management Toward
Accountability, March, 1971.

"Accountability: by Public Demand"
Paper presented at the annual meeting of the American
Vocational Education Association, New Orleans, 1971

"Accountability: An Operational Model", "Performance
Contracting", and "Educational Program Auditing"
Papers presented at the Michigan State Education
Agency, State-wide workshop on Performance Contracting.

"An Overview of Accountability"
Paper presented at the Annual Meeting of the Colorado
Association of School Executives, Denver, Colorado,
1970.

"Performance Contracting" and "Educational Program
Auditing" Papers presented at the Philadelphia
Accountability Workshop, 1970.

"Accountability and American Institutions"
Paper presented at the annual meeting of the American
Education Studies Association, Dallas, Texas, 1971.

Mr. Stenner entered the internship as a person unknown, with limited experience in child care and the education of emotionally disturbed children. In what can only be described an an incredible feat, he emerged after one year as a nationally recognized expert in performance contracting. His important contribution in the performance contracting area was possible, of course, only because of the unique training and experience he received as a Council intern. He is now on the staff of the Metametrics Corporation.

4. James H. Van Orden

The fourth Council intern was James H. Van Orden. Immediately prior to joining the Council, Mr. Van Orden had spent a year in the educational research doctoral program at the University of South Florida. Before the experience at Stouth Florida, however, his career had been in writing and in journalism. Among his positions had been reporter, magazine writer and editor, and college instructor in journalism. His experience as a writer and editor, coupled with the knowledge of research gained in a year of formal study, seemed to make Mr. Van Orden an ideal person to work on the problem of effective exchange of research and evaluation information.

This possibility was discussed at length in interviews with Mr. Van Orden, and he indicated a strong interest in attempting the experiment. Prior to his being named to the internship, he was asked to prepare a mock-up of a possible Council publication, which he did. The results appeared promising and he was offered and accepted the internship position.

During his first months at the Council, Mr. Van Orden prepared a number of magazine "paste-ups" and collected a large quantity of editorial material. The material included articles written by public school superintendents in major cities, editorial contributions and selected pieces from school newsletters sent in by member cities.

The publication, however, never got off the ground. Perhaps because of his lack of experience in an urban setting, Mr. Van Orden appeared unable to capture the gist of issues which would be considered important to member superintendents and their staffs. Under the supposition that a publication not read and considered frivolous was worse than no publication at all, Council staff would not agree to reporduction and distribution of any of the "paste-ups."

After a series of dead-ends, it became apparent that the "research magazine" concept was not viable, at least with available personnel. Thinking of the Council staff was adjusted, and Mr. Van orden was asked to work with the concept of special ad. hoc. reports designed to cover important projects the Council was working on. In his initial efforts, he prepared a "Council Brochure" describing a number of operational programs and a "Title I" summary derived from the larger report described previously. The ad. hoc. reports proved marginally successful at best.

After his first seven months with the Council, months which were frustrating for everyone concerned, Mr. Van Orden was reassigned to work with the Council's director of equal opportuniites, largely on writing assignments. He spent the reaminder of his internship year in this type of activity. Mr. Van Orden's last months with the program were thus more productive, though admittedly he was concerned with research only to the extent that some of the equal opportunity projects had evaluation components.

Mr. Van Orden's tenure with the Council would have to be termed a failure, both in regard to his personal growth and in regard to objectives of the Council's component of the training program. This is in contrast to outcomes attained with the other interns, which are described elsewhere in this report. Reasons for the failure will be speculated on in a later section.

Mr. Van Orden is now employed by the New Jersey School Boards Association.

5. Edward N. Whitney

Edward N. Whitney was the first of the five interns to join the Council staff. A native of Philadelphia, he had spent his entire professional career in the Philadelphia schools. After nine years as a classroom teacher, he joined the staff of the Office of Research and Evaluation as a Research Assistant. Two years later he went to Wayne State University as a doctoral candidate in educational psychology. Mr. Whitney came to the Council immediately after completing his course work and preliminary examinations at Wayne State.

Mr. Whitney was assigned to the area of information exchange, and he was to work on more formal information systems in contrast to Mr. Van Orden, who was working with a periodic publication concept. Mr. Whitney's first assignment was preparation of a paper on the feasibility and parameters of an information exchange. In the course of this work, he had the opportunity to talk at length with Dr. Lee Burchinal, director of the National Center for Educational Communication. A related assignment was the wirting of a position paper on the development of an information exchange system for the member school districts, which would be coordinated by Council Staff members. This position paper included a component which required the writing of a tentative funding proposal. Another task assignment, which Mr. Whitney felt to be quite valuable, was the opportunity to serve as the interim business officer for the entire operation of the Council.

Mr. Whitney has noted that the internship afforded him opportunities for traveling to member school systems, and for attending conventions, seminars, and workshops. During these various trips there were opportunities for discussion with such persons as Dr. Rodney Napier of Temple University, Dr. Everett Rodger of Michigan State University, Dr. Marvin E. Shaw of the University of Florida, and Dr. Marvin Dawson of Aurburn University.

Mr. Whitney notes the perspectives gained in such problem areas as major changes in the racial and socio-economic composition of public school populations; intransigence on the part of local schools toward making curricular and organizational changes; local political realities which affect the operation of most urban school systems; the extent to which school systems do not communicate or share experiences with one another; and understanding of the needs in the research operations of the large school systems throughout the nation.

To quote from Mr. Whitney's written evaluation of his internship experience, "Vicarious experience acquired from readings in one thing; to be in a situation where you have the opportunity to talk first hand with superintendents, school board members, directors of research offices, and community members from different parts of the country is another and has had a most profound impact on me."

Mr. Whitney is now a District Research Associate with the School District of Philadelphia.

c. Common Intern Experiences

Council interns also had a set of common experiences, designed to give all group members a broader understanding of problems faced by all large city research and evaluation offices, to develop certain important research and evaluation skills, and to develop a national perspective on research and evaluation issues.

The group met regularly with Council staff members and attended meetings of representatives from member districts. Interns Calendine, Stenner, and Whitney attended the Council's semi-annual Board of Directors meeting in Buffalo, New York, May 6 through 9, 1970, and all five interns attended the Board of Directors meeting in Dallas, Texas, November 4 thrugh 7, 1970.

Board of Directors meetings involve discussions by superintendents, board of education members, top-level staff, and invited guests, of major issues facing the large urban school districts. Various Council committees also meet and discuss problems in curriculum and instruction, testing, equality of opportunity, management, business operations, federal funding, research and evaluation, and the like. Committees consist of an appropriate representative (such as the curriculum director) from each member district. These meetings gave interns a perspective on national problems which would otherwise have been impossible to obtain. They heard detailed disucssions among persons actually involved in the field in attempting to solve problems.

The interns also attended four training sessions dealing directly with research and evaluation problems. As previously noted, three of these were sessions funded under a separate training grant, and the fourth was conducted by Teachers College as a part of its project responsibilities. Descriptions of each of these sessions follow.

1. Workshop on Measurement of Affective Variables

A workshop for research and evaluation staff members from Great

City districts was held in February, 1970, in Memphis, Tennessee. In planning meetings, the Steering Committee of the research directors had decided that the topic of "Measurement in the Affective Domain" would be valuable to members of their staff. At the workshop itself, Dr. David Orr, of Scientific Educational Systems, laid the groundwork for discussion by giving a historical background and speaking to the theoretical issues in measuring affect. Follow-up to this general introduction was provided by Dr. Marvin Shaw of the University of Florida, Gainesville. Dr. Shaw considered the general nature of attitude formation and change and also gave an overview of available measuring instruments. Particular emphasis was given to various problems identified by the participants themselves and on areas of concern in public education. Dr. Everett Rogers of Michigan State University discussed specific attitude measuring methods, focusing mainly on the Likert technique and on sociometric analysis. Dr. Bradley Greenberg, also of Michigan State University, addressed the group on the semantic differential and led the members in development of their own scales. After each topic of discussion the large body of participants broke into small groups, with an expert in each group, for individualized instruction and informal attention to specific problems. In addition, evening program presentations were given by participants on individual experiences within their particular school districts in developing and using affective instruments.

2. Workshop on General Evaluation Skills

A second workshop for research and evaluation staff was held in Monmouth, Oregon, at the Oregon College of Education, in September, 1970. This session was planned and hendled to allow latitude in choosing particular skills to be emphasized.

In planning for the workshop, Dr. Jack Edling, of the Teaching-Research Division, Oregon State System of Higher Education, met with the Council's Research Steering Committee, presented training materials already developed by Teaching Research, and suggested an individualized training approach which would allow each research director some latitude in determining which skills he would like his staff members to develop. The Steering Committee voted to follow Dr. Edling's suggestion.

At the training session, research and evaluation staff members from Council cities began in one of four areas: proposal writing, instructional systems. measurement, and evaluation. Tests were given to determine entry level skills, and instruction was highly indivized by the staff of Teaching Research, working under the direction of Dr. Dale Hamerus and Dr. James Baird. Participants moved at their own rates, and if they reached proficiency level in their initial area, they were allowed to choose a second area and begin work there.

Some 30 research and evaluation staff members, 21 paid for by the project and the remainder sent at the district's expense, attended the three-day session. Proficiency tests given by Teaching Research confirmed that intended skills were developed and letters from participants to the Council indicated their satisfaction with the program.

3. Workshop on the Systems Approach

In May, 1970, the research directors of member school districts met in Vail, Colorado, to discuss the "Systems Viewpoint in Project Development." Dr. Desmond Cook and his associates, Dr. John Skalski and Dr. Gregory Trzebiatowski from Ohio State University, were on hand to present not only basic systems concepts but also the tolls and techniques used by a systems manager. Multi-project management was discussed in addition to single project development and evaluation. From a Council member city, Dallas, Texas, Dr. Rogers Barton provided input on performance contracting. Additional involvement of the research directors themselves occurred in several panel discussions on such topics as: "Implications of Using the Systems Approach for the Research Director" and "What Does Systems Analysis Mean Relative to Program Development and Evaluation" and "Where Do We Go from Here in the School Research Operation?" Indicative of the active interest in the topic of this seminar was the fact that many cities at their own expense sent more than one participant to the meeting.

Further detail on the three workshops discussed above is provided as Appendices B, C, and D.

4. Special Workshop at Teachers College

As a part of its project activities, Teachers College of Columbia University conducted a special workshop for the Council interns the week of September 28 - October 2, 1970. The purpose was to acquaint the interns with the evaluation model being developed at Columbia and to give them preliminary instruction in use of the model. The sessions were really glimpses of the various facets of the activities surrounding the evaluation and field-model work being carried out by Teachers College.

A brief schedule of the workshop follows:

Monday	Briefings by McNeil and Ianni, schedule of activities roughly outlined. Videotape of Drug Encounter group working in community.
Tuesday	Presentation by Mrs. Gordis on various techniques of classroom observation. Brief discussion of problems of evaluating EEP (Elementary Experimental Program) Directions given for self-guided tour of neighboring Harlem district and visit to PS 188. Tour of outlined Harlem area.
Wednesday	Sat in on EEP staff meeting.

Wednesday (contd.) Sat in on EEP meeting with graduate students (research associates).

Discussion with Dr. Juleo George of urban education problems and social systems theory.

Thursday Discussed proposed project in banking and the techniques of videotaping with Mr. Eric Mortensen. Watched a classroom film with split-screen and frame-synchronization.

Friday Met community relations specialist, Spencer Jamison, at his Harlem Center and disucssed our visit to Harlem District.

The most interesting and information sessions were with Eric Mortensen, a specialist in group interaction analysis via video-taping and television systems. His work in classroom observational techniques using split screen photography enables study and replay of critical incidents in the classroom, teacher behavior, individual student behavior, and the total classroom in simultaneous time frames to study relationships of behavior. He also uses time-lapse photography to keep a perspective on a single day of classroom unit.

Mortensen is also involved with the third-largest bank in New York in a project to identify and describe "entry-level jobs" in banking to develop a curriculum for training; his ideas and model closely resemble the Vocational Education Project of the Council.

On Tuesday, September 20, the interns met in the morning at Columbia to talk with Mr. Spencer Jameson to discuss urban school problems. They received his guide, "A Look at the Community," and after a brief discussion were instructed to walk from Columbia University along Amsterdam Avenue to Lenox Avenue, then back to Columbia. Jameson's guide listed areas of interest for the interns to be aware of as they walked. The areas were: Housing, Agencies, Grocers, Laundries, Automobiles, Department Stores, Candy Stores, Eating Establishments, Religious Centers, Transportation, Population, Cultural Centers, Education, Politics, Professional Organizations, Recreational Facilities, Employment and Fraternal Organizations.

The purpose of the work is summarized in the following sentence from Jameson's guide: "Armed with nothing more than sharp eyes and ears and the questions in this guide, educators will be more likely to receive full impact of the daily environment of many of the residents."

The "full impact" of Harlem was felt. The usual abundance of garbage and filth filled the streets, although some streets had their own litter campaigns and were noticeably cleaner than others. Fire hydrants were open and dripping. It was learned that a responsible individual opens the hydrants with a special key if enough reisdents desire to be sprinkled. A turned-over and gutted car decorated a curb, while other cars lined the streets nose-to-rear.

Eyes followed the interns as they progressed up one street and down the other, into stores, up and down aisles, and into a school. P.S. 188 was a fortress of another age; spiked finces and barred windows gave it a jail-like appearance. A security guard met the interns and directed them to the office. Unfortunately, a tour of the facilities did not materialize.

Later in the walk the interns came across an office representing the "store-front" school program. They learned that drop-outs were given an opportunity to complete their educations at nearby offices and stores staffed by professional teachers.

The walk ended and the interns compared their impressions in order to prepare for a debriefing session with Mr. Jameson on Friday, October 2nd. During this session the observation guide was used and most of the areas were discussed, with a heavy emphasis on Education. Mr. Jameson described the conditions of Harlems' schools, as well as his own program to help youngsters find worthwhile activities and jobs. The session ended on the note that educational research is vitally needed in the urban school in order to identify problems and help find solutions to these problems.

The interns felt that, other than for the activities discussed above, the Teachers College workshop was not as well organized as it should have been. It was of moderate effectiveness. Insight into urban problems and into difficulties of conducting evaluation in the urban setting was developed, though less than anticipated was learned about the new evaluation model being developed.

d. Evaluation of the Council Component

Generally, the Council component of the Research Training Project can be considered successful. All of the objectives stated previously were at least partially met. There was extended study of special problems of research and evaluation in large city school systems, assistance in finding solutions to some of these problems was provided, the research capability within the Council was upgraded, and groups of interns was provided experiences which, for four of the five at least, greatly upgraded their capabilities to engage in research and evaluation activities in large urban school districts. The current activities of the former interns, the more responsible positions they entered after completing the program, and their own comments about their year with the Council attest to the program's success.

The Council component was unusual in that it allowed each intern to concentrate on his own special interest area. It was highly individualized, in the literal sense of the term. Group activities accounted for approximately 15 percent of the interns'time; the remaining 85 percent, each intern was working in a separate area. Achieving success in this situation is obviously quite different from achieving it when each trainee has a set of well defined courses. The Council program required individuals who were mature, who already possessed basic research and evaluation skills, and who were capable of taking responsibility and working independently.

The concensus of Council staff is that the program was highly successful with four of the interns -- particularly so for interns Denton and Stenner. It has to be regarded as a failure with Mr. Van Orden, and reasons for this failure with Mr. Van Orden, and reasons for this failure need to be at least speculated on.

In the first place, it seems evident in retrospect that the selection mechanism was faulty. Mr. Van Orden's background was in writing, editing, and teaching journalism, and he had achieved success in those areas. He had practically no background in education nor in urban problems, and he had no field experience in research and evaluation. It is evident that some of the background he needed to succeed in the task he was given was missing. This is no fault of his, of course; it reflects, rather, an error in judgment by those who selected him, particularly the project director. This aspect of the failure is valuable as regards planning of future training activities of this type; it demonstrates the importance of the urban education--research and evaluation experience.

In the second place, again from the vantage of retrospect, Mr. Van Orden was probably not given the close supervision he needed under the circumstances. Since experienced persons were to be recruited, it was expected among Council staff that interns would be capable of taking major responsibilities with a minimum of orientation. This mind set was so strong that it required several months for the fact that the expectation had not been met in one of the five interns to sink in. The delay in this realization was also probably related to the success of the other four interns.

Using the program output -- the status of the interns at the program's conclusion -- as a criterion, the program can be judged about 80 percent successful. It demonstrates the efficacy of the training concept being tested, that is, of upgrading the skills and operating capability of persons who already have considerable background in research and evaluation. It also demonstrates the extreme importance of the selection process in this type of situation. Finally, it demonstrates the capability of the Council of the Great City Schools to handle training of this type, and it emphasizes the value of the experiences available through the large urban school districts which comprise the Council's membership.

III. PROJECT ACTIVITIES OF THE SCHOOL DISTRICT OF PHILADELPHIA

a. Background of the Philadelphia Component

The School District of Philadelphia, as one means of helping to deal with the critical problems it faces, has upgraded its research and evaluation capabilities. Other large city school systems have made similar efforts. In order to effect this upgrading, personnel with highly specialized training are needed. This need for personnel has developed at a time when there is an acute shortage of qualified educational researchers. Moreover, school-system based research personnel require skills somewhat different from the traditional university-based researcher. They must have both a sound technical background in methodology and the necessary skills and experience to work successfully within a school-system setting.

The school-system-based researcher (or evaluator, if one prefers that terminology) must be able to:

1. Help educators define their instructional objectives.
2. Design studies which will yield the desired information without distorting or too heavily intruding upon the programs being studied.
3. Select or design instruments which are appropriate for the population being studied.
4. Analyze and interpret the results of studies.
5. Present the results in such terms that they will be of maximum immediate use to decision makers.

Personnel with these skills are in short supply. By becoming involved in the training of research personnel, school-system research offices can not only help supply this need, but can also add the vital ingredient of familiarity with the school situation which is lacking in traditional programs of preparation. Thus they can produce personnel who are capable of research which is not only technically sound, but also relevant to the needs of the schools.

It is with this motive in mind that the Office of Research and Evaluation of the School District of Philadelphia undertook to develop a Research Training Program. The program had these objectives:

a. To develop, through a combination of practical experience and formal training, an overall capability for conducting high quality research and evaluation in school systems.

b. To develop, through a combination of discussion and direct experience, an understanding of special problems and special needs related to conducting research and evaluation in the school setting. Among matters receiving special attention will be: determination of school issues which are amenable to research solution; stating relevant research objectives; interpersonal relationships with professional school personnel; regular project monitoring and feedback; and reporting in an understandable way to decision makers.

c. To provide the practical competence to conduct research and evaluation in schools through on-the-job experiences which deal with special problems of design, planning, control, and conduct of research projects; measurement and retrieval; statistical analysis of data; and interpretation and reporting.

d. To provide the technical competence needed to conduct educational research and evaluation through formal graduate-level university courses in research planning, research methods, tests and measurements, statistical analysis, and psychological learning theory.

e. To develop, through discussion and on-the-job experience, the ability to help school personnel identify, clarify, and phrase their instructional and administrative objectives.

f. To develop, through practical experience and understanding of the ways research and evaluation study results should be reported in school systems so that they have maximum impact on the decison-making process.

g. To develop in trainees a commitment to school research and evaluation as a career field and to assist them in locating a suitable position after the program is completed.

b. Operation of the Philadelphia Component

Approval of the project was announced late in the Spring of 1969, about the time most colleges and universities were completing their spring terms. Since the trainees were to enter the program the following September, recruiting became a major problem. The purpose of the recruiting effort was to identify six college graduates who were:

- Capable of pursuing a masters degree in Educational Research.
- Capable of practicing in a large school system research office.

The recruiting effort was conducted in three phases: Advertising, Screening, and Interviewing.

During the first phase, circulars were distributed both within the School System and to colleges and universities. Letters were sent to university placement officers, as well as the chairmen of the mathematics, psychology, and education departments. Dean Gross of the University of Pennsylvania contacted his colleagues in a number of Eastern Universities. The Office of Informational Services of the School District of Philadelphia prepared press releases.

In all, over one hundred inquiries were received concerning the six positions available. About forty individuals completed applications and were assisted in applying for admission to the University of Pennsylvania.

The second phase of recruiting involved screening by the University of Pennsylvania. Only those applicants accepted by the University were interviewed. Nineteen interviews were conducted, and the six trainees were selected from this group.

The recruiting experience brought to light only one major problem. Notice of Grant Award from U.S.O.E. came so late in the year that most colleges had already dismissed for the summer. This had the effect of seriously restricting the pool from which the program could draw. Most top students had already received offers of schooling or employment. Only those students remained who had not received offers or acceptances or those who had not decided what they wished to do. Even under these circumstances, the program was able to identify and attract a number of promising trainees.

Notification of grants earlier in the year would, however, permit selection from a larger pool. The program would then have been able to compete for the top students.

2. The University Subcomponent

Formal Coursework. -- Trainees in the program were enrolled as graduate students at the University of Pennsylvania and attended courses on a half-time basis. The function of the Master of Education Program was to equip trainees with the technical skills necessary for conducting competent research.

Trainees were a part of the METER (Measurement, Evaluation, and Techniques of Educational Research) program under the chairmanship of Dr. Frederick B. Davis. Professor Davis and Dr. Andrew Baggaley shared the responsibility of advising the trainees regarding thier academic programs.

During each of the four semester of the Research Training Program, trainees took two course units (six semester hours) of work at the University, and during the intervening summer an additional three course units were taken. Courses taken were basically in the area of Educational Psychology, Educational Measurement, Research Design, Test Construction, and Statistics. Some electives were permitted.

Analysis of the Formal Coursework. -- This phase of the program was satisfactorily planned and executed. The general pattern of courses was agreed upon in advance. Dr. Davis and his staff proved very flexible in developing a program with each trainee.

The Summer Workshop. -- During the second half of the summer intervening the two years of the program, trainees participated in an all-day workshop. The workshop was designed to:

- Give trainees the experience of carrying out an independent research project.
- Give trainees the opportunity to apply skills learned during the first year.
- Serve as a vehicle for teaching additional skills.

The summer workshop was divided into two portions. During the morning session trainees were instructed in mass data processing and during the afternoon they worked on individual projects. The instructors involved attempted to integrate the two experiences. An overview of the workshop can be found in Appendix H.

Since the workshop was developed specifically for this program, a few words of explanation might be in order. The morning session was devoted to mass data processing. Trainees were introduced to computer systems, a programming language (FORTRAN IV), and packaged programs. When the data from their individual projects was ready for reduction and analysis, it was used as a vehicle for instruction. A complete course outline can be found in Appendix I.

During the afternoons, trainees worked on individual projects. In order to simulate as much as possible real working conditions, projects were assigned to trainees. (Projects were selected by the course instructor in consultation with the trainee advisor). Each trainee then had the responsibility of writing a proposal. He was then supplied with a set of appropriate data and asked to reduce and analyze it. A final report was then written. During the course, the instructors served as consultants to the trainees on an individual basis. Several days a week the class met as a group for more formal instruction and discussion. A course outline will be found in Appendix J.

Analysis of the Summer Workshop. -- It was this portion of the program that was most enthusiastically received. After having spent a year working on parts of studies and taking formal classes, trainees were finally given an opportunity to "put it all together" in a project of their own. Trainees reported that they had gained a lot from the workshop. (Here, as in the other portion of the University component, no measure of trainee learning was made beyond the report of the University).

Since the workshop was designed specifically for this program, the instructors observed carefully the outcomes of their efforts. At the end of the workshop, each instructor was asked to detail the skills which trainees could reasonably be expected to display after the workshop. In addition, they were asked to critique the workshop as they had conducted it and make recommendations for revisions.

The reaction of the instructor of the mass data processing portion of the workshop can be found in Appendix K.

The reaction of the instructor of the individual project portion of the workshop can be found in Appendix L.

On-The-Job-Training. -- This part of the Research Training Program was intended to supply practical experience for the trainees. By assisting a staff member in his work, the trainee would be able to experience the problems of conducting research in large city school systems. He would be able to bring the practical problems met to his course work, and, similarly, bring the information gained from course work to his job.

In addition, trainees would become familiar with the workings of a large city school system and of the informational needs of educational decision makers (both teachers and administrators).

Trainees were assigned to each of the three Divisions of the Research office for a period of one semester. Each trainee was given experience in Division of:

- Instructional Research and Development
- Testing
- Administrative and Survey Research

During his assignment in a Division, the trainee worked half time (the other hald of his day was spent at the University) either as an assistant to a Research Associate or on a project assigned directly by the Division Director.

Trainees assisted in such tasks as:

- collecting data
- conducting literature reviews
- preparing testing reports
- writing research proposals
- writing research reports
- conducting opinion surveys
- conducting pupil population studies
- conducting studies of pupil accounting forms
- monitoring programs being studied

A senior staff member was appointed to serve as Program Director and Tainee Advisor. He had the responsibility of coordinating the program, acting as liaison with the University, conducting the seminar, and advising trainees in their adjustment to the office and to the program.

Analysis of On-The-Job-Training. -- This part of the program gave rise to one major problem. In an attempt to introduce trainees to all of the functions of the Research Office, they were assigned to each Division for one semester. While this permitted a breath of experience, it militated against depth. Trainees started a project in one Division but had to leave before it was completed. They ten rotated to the next Division to complete a project they had never started. This produced a certain amount of frustration among the trainees.

Though a research director in a small town school system might have to be a "jack-of-all-trades," large city school system research offices house a number of specialties. There is a certain amount of overlap of skills from Division to Division, but there are also some skills that are specific to each Division. It might have been better to recognize this fact and require each trainee to specialize in one Division. Familiarization with the functions of other Divisions could then have been accomplished by a series of seminars.

Seminar Program. -- As a part of their experience within the Office of Research and Evaluation, trainees attended a series of specially designed seminars. The seminars had the function of:

. giving the trainee a feeling of identity with the program.

. providing a forum for the discussion of problems.

. providing a vehicle for feedback from trainees.

. giving trainees an opportunity to explore additional areas of interest.

Seminars were held every other week during the first semester of the program. They were two hours in length. Three general areas of content were included:

1) Orientation

Discussions dealt with the organization and operation of the Research Office and of the school system in general. Topics included administrative-organization, history, problems, operation, etc.

2) Problem Solving

Trainees were encouraged to discuss problems relating both to personal orientation to the Research Office and to issues specific to individual assignments. Solutions were proposed, and, where necessary, policy decisions were made.

3) Planning

Trainees were involved in two kinds of planning:

. for specific events (i.e., the AERA convention, visitation to Early Childhood Programs).

. for future seminars (Trainees proposed areas of interest, speakers, etc.)

During the second semester, a more structured pattern was introduced. Specific topics were covered. These were based both on the requests of the trainees and on additional material injected by the Trainee Advisor.

When speakers were invited, one trainee accepted the responsibility of meeting with him in advance to orient him to the concerns of the of the trainees. The same trainee then acted as chairman for the seminar session.

Trainees elected to meet on a weekly basis during the second semester.

Topics included:

1) Behavioral Objectives

   Discussion included rationale, structure and practical applications. Trainees wrote sample objectives and discussed them. Each trainee had read Preparing Instructional Objectives by Mager before the seminar.

2) The Testing Program in the Philadelphia School System (2 sessions) Speaker: Mr. Jules Grosswald, Director of Testing.

   These sessions provided a comprehensive overview of the school system's testing program, including purposes, instruments, and problems.

3) The Role of Educational Research in the School System

   This session used The Saber-Tooth Curriculum by Harold Benjamin as a springboard. Trainees read the book prior to the session. Each trainee presented a short paper on his perception of the role of research in the school system. Papers were discussed and critiqued by the group.

4) Early Childhood Programs

   Mr. Milton Goldberg, Director of Early Childhood Programs spoke on the various programs currently in operation in the school system.

5) Program for Advanced Administrative Development

   Mr. McKinley Lennox, Evaluator attached to this program, discussed his role as an evaluator during the formative stages of a program. He stressed relations with participants, collection of data, and development of objectives.

6) Bilingual Program

   Mr. Robert Offenberg, Program Evaluator, discussed the evaluation being carried out for this program. He stressed design and planning, relationships with participants, instruments used, and problems encountered.

7) The Role of the Curriculum Office in the School System

Dr. I. Ezra Staples, Associate Superintendent for Instructional Services, spoke about the functions of the curriculum office. He stressed the relationship between the curriculum office and the schools.

8) The Role of Research and Evaluation in the School System

The starting point for discussion was Educational Evaluation: New Roles, New Means (N.S.S.E. 68th Yearbook, Part II). The first session dealt with the relationship between traditional research designs and current thinking in the field of evaluation. Several subsequent sessions dealt with specific issues.

The seminars were reinstituted during the third semester (second academic year) of the program, and they included a visit to Research for Better Schools, the Regional Educational Laboratory. Toward the end of the third semester, the seminars were suspended for the remainder of the year.

Pressure from increased responsibility on the job, more difficult course work, and anticipating preparation for masters comprehensives led trainees to resist taking on additional assignments. As conceived, the remainder of the second year seminars were to be run largely by trainees, and extensive preparation would have been necessary.

Analysis of the Seminar. -- The seminar appeared to have served well its initial purpose of giving trainees a sense of identity as a group. University personnel commented on their cohesion, and even after the program ended there was still some contact among them (i.e., they seemed to know what the others were doing.)

During the first year the seminar was used as a forum for comments on or grievances about work in the Research Office. When required, action was initiated as a result of such discussions.

The effect of the seminar in the cognitive area is not as clear as in the social area. Topics were, for the most part, chosen in consultation with the trainees. An attempt was made to respond to needs and interests as they developed.

Topics covered are felt to have been pertinent and worthwhile. The seminar might have been improved, however, if greater structure had been introduced somewhat earlier. This would have permitted, for example, more extensive coverage of the expanding literature in the field of evaluation techniques.

Another consideration is the format of the seminar. Probably more reliance should have been placed on retaining consultants (including specialists from outside the school system) to speak to the trainees and conduct discussions. In contrast, when the seminar started to function as an additional academic component there was resistance to it. It was not able to be a classroom, and it might well have been a mistake to attempt to make it evolve into one.

Independent Projects. -- During the fourth semester of the program, trainees worked on independent projects. This component of the program was included to:

- give trainees the opportunity to conduct individual studies.
- help trainees become aware of deficiencies in the backgrounds.
- provide an additional experience in a practical way.

Before the end of the third semester, trainees were asked to select independent projects. The following ground rules were established:

- The project had to be one the trainee could complete before the end of the year.
- The project had to be of benefit to the School District.
- The trainee had to find a "sponsor" who would guide him in the completion of the project.

Beyond the above, no restraints were placed on trainees and they were free to pursue their own interests.

Trainees were required to submit brief proposals for their projects. When these were approved, they were permitted to begin working on them. The following projects were undertaken:

- Evaluation of Parent-Aide Component of the Project for Improving Reading-Language Teaching (PIRLT)
- A Study of the National Teachers Examination as a Criterion for Teacher Placement
- An Evaluation of a Reading Teacher Consultant Program for New Teachers.
- An Examination of the Use of Research Information by Teachers Under Two Conditions of Support

Analysis of the Independent Projects. -- All four projects undertaken (There were only four projects because one trainee graduated early and two others resigned. This will be discussed under the Progress Toward Objectives section, below.) were successfully completed.

Two (the NTE study and the PIRLT Study) were aspects on ongoing projects, and the Research Associates responsible for the studies served as sponsors. The study of Teacher Use of Research Information was performed at an elementary school under the sponsorship of the principal, a former Research Associate in this office. The study of the Reading Teacher Consultant Program was performed under the sponsorship of a District Research Associate.

The major problem observed in this component of the program resulted from the freedom given to trainees in project selection. A lot of time was lost casting about for projects, and few got underway before the end of January or the beginning of February. A better plan would have been the direct assignment of projects based on existing needs of the office and knowledge of trainees' interests.

C. Evaluation of the Philadelphia Component

Meeting of Objectives. -- In terms of progress toward meeting objectives, the Philadelphia component can be evaluated as follows:

Objective 1. To develop, through a combination of practical experience and formal training, an overall capability for conducting high quality research and evaluation in school systems.

No assessments of knowledge - in the paper and pencil test sense - were made beyond those of the University. All graduates of the program were judged, by Research Office leadership personnel, to be capable of occupying at least Research Assistant positions. Additional experience and some progress toward the Doctorate would be required for Research Associate level positions in this office.

More concrete evidence along these lines is the fact that no trainees have been hired as Research Assistants in this office, and another trainee has been offered a Research Associate position in another school system.

Objective 2. To develop, through a combination of discussion and direct experience, an understanding of special problems and special needs relating to conducting research and evaluation in the school setting.

Among matters receiving special attention will be: determination of school issues which are amenable to research solution; stating relevant research objectives; interpersonal relationships with professional school personnel; regular project monitoring and feedback; and reporting in an understandable way to decision makers.

No formal assessment of knowledge in this area has been made. It should be noted, however, that seminar sessions, on-the-job-training experiences, and total office staff development seminars were directed toward this objective.

Objective 3. To provide the practical competence to conduct research and evaluation in schools through on-the-job experiences which deal with special problems of design, planning, control, and conduct of research projects; measurement and data retrieval; statistical analysis of data; and interpretation and reporting.

In addition to on-the-job training experiences, both the Summer Workshop and the Independent Project were directed toward this objective. Both program components required trainees to deal with these problems and to produce products which demonstrated acceptable solutions to them.

Objective 4. To provide the technical competence needed to conduct educational research and evaluation through formal graduate-level univeristy courses in research planning, research methods, tests and measurements, statistical analysis, and psychological learning theory.

- Four trainees received their Master's Degrees in June, 1971.
- One trainee dropped out of the program at the end of the year for academic and personal reasons. He was replaced with another trainee, but the replacement does not have sufficient credits for the degree.
- One other trainee dropped out during the second year due to a decision to go into another field.

Objective 5. To develop, through discussion and on-the-job experience, the ability to help school personnel identify, clarify, and phrase their instructional and administrative objectives.

The The objective was pursued in the seminar, the summer workshop, and in the independent project, as well as in the work-experience component of the program.

Objective 6. To develop, through practical experience an understanding of the ways research and evaluation study results should be reported in school systems so that they have maximum impact on the decision-making process.

Progress toward this goal was made by having trainees participate in writing research reports, as well as in the summer workshop and the independent project. Realistically, this goal is one toward which all research offices are working, and no one can claim to have "arrived." Trainees did, however, participate in some of the efforts of this office.

Objective 7. To develop in trainees a commitment to school research and evaluation as a career field and to assist them in locating a suitable position after the program is completed.

Seven trainees participated in this program (two for one year only). Of this number:

- One left for academic and personal reasons.
- One left to go into another field.

- One is to work as a Research Associate in another school system.
- One has been accepted in a doctoral program in Educational Research.
- One has been accepted in a doctoral program in Educational Administration.
- Two have been hired as Research Assistants in this office.

For the short run, then, the program has been successful in four out of seven cases. One is in a related field, and two were outright failures.

Conclusions and Recommendations. -- Overall, this approach to the training of researchers for large city school systems appears to have realized its expectations. Trainees were able to earn graduate degrees in Educational Research and Measurement, and they did have the experience of coping with problems of doing research in a school system. These observations, however, are of the short range. No statement can be made about how the trainees will develop. Moreover, replications beyond the specific trainees involved and beyond the specific school system involved are necessary before meaningful generalizations can be made.

Before replication is attempted, two issues should be given consideration. First, the present program is a relatively extensive one and probably is not feasible for school systems in its present form without outside support. Even if school systems are able to afford the salaries of the trainees, it is unlikely that they would be able to afford the tuition as well. That expense would have to be borne by an outside source or by the trainee himself.

Another consideration is staff time. Working with a trainee requires a certain amount of time, and this must be taken into consideration when distributing responsibilities to staff members. Unless some advance thought is given to the role that a trainee is to play in a division or in a project, there is a great danger that he will be given mostly clerical type tasks to do. This, of course, would defeat the purpose of the work-training component.

The following recommendations are reiterated from earlier discussions of program components:

1. Notice of grant award should be given no later than January or February. This will permit the program to solicit participants from a much larger pool than was available to the current program. While there is no guaranteem there is at least a probability that some of the individual failures of this program could have been averted if selection would not have been limited to students still uncommitted in May.

2. The University programs of trainees should be so planned that all have at least one course in FORTRAN, one course in intermediate statistics, and one course in research design prior to the workshop. This will permit trainees to get maximum benefit from the workshop experiences.

3. Trainees should be assigned to one division for the entire program. Familiarity with other Research Office functions should be achieved through seminar sessions and through the natural interface of the divisions. This will avoid fragmented experiences and permit trainees to gain more in-depth knowledge.

4. The seminar program should be modified so that the latter part of the first year and the entire second year involve more meetings with specialists, both from within the school system, and from outside sources.

5. The independent project should be assigned to the trainees and he should then be assigned to a sponsor. This would not only more faithfully duplicate actual working conditions, but also would avoid the time lost casting about for a problem.

IV. PROJECT ACTIVITIES OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY*

a. Background and Rationale

This section of the report describes the training model developed by Teachers College. The model develops out of a comprehensive survey of materials on evaluation and qualitative research, and out of our own recent experience with several large-scale evaluations. We would call attention to several important features of this report:

1. It is concerned with training evaluators in the broadest sense of the term "evaluation." We believe that the evaluator must understand how the evaluative function serves decision-making functions, and also how evaluation is related to issues of valuing, determining worth, and making value judgments.

2. Given a primitive state of the art in educational research, we believe that fieldwork and qualitative analysis are critical features of an evaluation. We have been experimenting with some of these techniques in our own work, and are confirming are own hunches as to their usefulness. This report presents an introductory course for training students to carry out fieldwork and qualitative analysis. "Learning by doing" is the basic training methodology. To our knowledge, the program outlined here is the only attempt that has been made to systematize training in this area. We feel that is a significant contribution--all the more so because it can be used as an introduction to social science methodology as well as an introduction to evaluation.

3. The program outlined here is flexible enough that the introductory portions may be conducted by a non-academic institution such as the Council or a Board of Education; introductory portions are equally appropriate for use in academic institutions. However, more advanced training would probalby have to be provided primarily through the academic institution.

4. Internship as a member of a team, conducting an ongoing evaluation, is a key element of this program.

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*The material in this section is taken ver batem in a number of instances from the report submitted to the Council by Teachers College. The editorial "we," which appears quoted often, represents the Teachers College staff and not the Council.

We believe that there are many things about school systems that can not be taught without direct and continuing contact with such systems. The internship provides for this kind of contact, under the guidance of a more experienced team member. It also provides the interm with experience in working as part of a team--an experience which should prove valuable for later professional partic ipation as a team member.

5. We have tried to suggest ways in which our training outline can be related to the work of others who are also concerned with training. The work of Malcolm Provus and of the Center for the Study of Evaluation are of course notable in this regard.

1. General Characteristics of the Proposed Evaluation Design and Training Model

Evaluation, Administration and Decision Making -- Evaluation is commonly described as an aid to decision-making and administration. Both evaluation and effective administration involve a thorough analysis of program goals and of activities which purport to meet those goals. Effective evaluation and effective administration are mutually, inextricably, dependent.

Yet there is a persistent tendency for evaluation to be dealt with as a discrete activity--in government contracts, in academic course, and in evaluation literature. Contracts call for an "outside" evaluator, and too often that evaluator is "called in" after a program has already been shaped by its administrators. An implicit assumption throughout so much of the literature is that evaluation is something imposed onto a program; the evaluator is viewed in effect as a technician--as one who uses his technical skills to determine the success of a program in measuring output.

We can speculate that the main reason for this is that it is convenient and sometimes even necessary, for conceptual purposes, to separate the function of evaluation from other administrative functions. Evaluation was often considered "research" as opposed to "action;" as "research" it had to follow the canons of non-intervention, usually resulting in non relevant behavior. However, our own experience, as well as that of some others, demonstrates the importance of grounding the evaluative function in the process of administration. In this way, program goals can derive from a comprehensive perspect, they can be operationalized in such a way as to aid program decisions, and value judgments underlying administrative choices can be made explicit.

For these reasons we feel it is extremely important, in the training of evaluators, to stress the interdependence of evaluation and administration. Here at Teachers College we are in fact developing courses and experiences in evaluation to be included in the program for training of educational administrators. The courses and experiences in evaluation to be included in the program for training of educational administrators. The courses and experiences in evaluation described in the next chapters of this report, are typical of those that might be included in that training program. While the courses and experiences might also be taught as a descrete sequence, we feel it would be better to integrate them with a broader program for the training of administrator-evaluators or program developers.

Multi-Faceted Projects; Importance of a Team Approach -- The kinds of problems requiring evaluation in education are so varied and often so complex that they require a wide range of evaluative competencies. No single person can embody that full range, and for this reason we feel that a team-approach to evaluation is critical. The teamsshould consist of a number of individuals each of whom incorporates one or several of the special competencies required for the specific problem under investigation. Each member of that team should also have a general knowledge of the field of evaluation and should be able to deal conceptually--if now technically--with the problem that the team as a whole is analyzing.

We feel that trainees in evaluation, who will ultimately be members of such a team, need to have some experience in a team relationship prior to assuming full responsibility as a team member. For this reason, we suggest that the trainees program include an internship experience with a team. Such an internship experience has been provided for selected students at Teachers College over the past two years. Our experience indicates that this is indeed an effective training device.

Expected Careers for Trainees; Relevance of this Program -- As noted the concern is to train evaluative personnel who understand their function as integral to, and can operate within, a broader context of administration and decision making. In fact we would anticipate that some individuals trained in this manner might move into high level administrative positions for innovative programs where evaluative competence is critical. The most obvious type of position falling within this category is of course that of director for research and evaluation in a school system. The Council of the Great City Schools is in a position ot help place such individuals, and plans by which this might be accomplished are included elsewhere in this report. For these kinds of positions, it is important that the individual have a comprehensive understanding of evaluative issues, and that he be able to conceptualize particular evaluations in a way that permits him an overall view of the evaluation while others focus more carefully on specific segments of the study.

Others in our program might wish to confine themselves more exclusively to evaluation per se. Among these are individuals who may wish to 1) direct or conduct evaluative consultation services or 2) provide specialized or technical service in conducting portions of evaluation studies which requires their specific skills--specialties might include classroom observation, psychometric testing, computer technology, etc. No doubt some would wish to locate at a university and to teach courses in conjunction with their particular intersts in evaluation.

All can be trained from the type of program outlined below. The program provides for 1) a comprehensive overview of issues relevant to evaluation; 2) practical experience in carrying out an evaluation--accompanied by a seminar to facilitate conceptualization and provide feedback and 3) in depth training in one or several specialty areas. Concentration among the three areas would vary depending on trainees' ultimate goals.

Implementation of the Program in Academic and Non-Academic Settings -- The preceding section outlined possible careers for evaluative personnel: it can be anticipated that each type of career requires a graduate degree(s) for advancement in that career. Therefore the discussion that follows is oriented toward graduate training.

However, two major components of the program outlined here--1) internship in an ongoing evaluation and 2) participation in a core curriculum--can be administered by a non-academic institution such as the Research Council. If such were the case, that institution to provide additonal training which would build onto the core and internship experience.

The core and internship experience can also be integrated into college or university degree granting programs. The components are of course basic to any program leading specifically to a degree in evaluation. However, if such programs are not in existence at a particular institution, the components can be linked to other kinds of degree programs--such as administration or curriculum to provide appropriate training in evaluation.

Critical to our program is the student's internship experience as a team member of an ongoing evaluation; the existence of an ongoing team evaluation is thus a prerequisite for this program. For the past two years we have been involved in such an evaluation and have experiemented with the possibilities of attaching students to such projects at the same time that they are taking courses or completing degree requirements. As expected, we experienced some difficulties and are planning certain program revisions. But we feel that basically our approach to the internship experience is in fact a viable one.

Given a multi-faceted ongoing project of the kind described above, there is a range of types of positions for interns. It is possible therefore for interns to enter the program at various stages of their educational career. The ideal intern is one who has had some experience in an educational setting, and who has a strong academic background in the social sciences, and perhaps in education. Interns just beginning graduate study may assume positions of minimal responsibility, under the close supervision of another team member. Interns at more advanced stages of graduate stydy could assume positions requiring more responsibility. An intern might remain in the program for several years, assuming increased responsibility, until he is ready to move into one of the careers described in the previous section.

2. Use of the Term "Evaluation"

The literature of the past forty years--and particularly recent literature--displays a bewildering array of definitions for the term "evaluation." Rather than quibbling with these definitions and elaborating yet a new one for the list, we prefer to accept three different sets of definitions as appropriate to our interest here. Although each set has a somewhat different focus, we feel that all fall appropriately under the heading "evaluation." The three types of definitions are discussed below, and each is touched on in the training program which follows.

Evaluation as the study of input-output relationships--One definition focuses on the relationships among the inputs, processes and outputs for a particular program. An attempt is made to identify and describe the inputs and processes required to produce certain kinds of outputs. By obtaining this kind of information on the relationship between means and ends, a planner or decision maker can manipulate means variables to achieve desired ends. Evaluative information of this sort on past performance is particularly useful in planning for and making decisions about future performance. It was in this sense that Hyman's now classic definition was offered:

> Evaluation refers to the procedures of fact finding about the results of planned social action, which in turn move the spiral of planning (action, and fact-finding) ever upward. It is the proper methodological accompaniment to rational action.[1]

A similar definition by Suchman incorporates a range of variations on the same theme, which he encountered upon reviewing a vast literature on evaluation:

> ". . . we may simply indicate the range of variation by defining evaluation as the determination (whether based on opinions, records, subjective or objective data) of the results (whether desirable or undesirable transient or permanent; immediate or delayed) attained by some activity (whether a program, or part of a program, a drug or a therapy, an ongoing or one-shot approach) designed to accomplish some valued goal or objective.[2]

Recently, the growing interest in systems approaches to decision making has placed a special emphasis on the analysis of alternatives within this means-ends framework. Assuming that there are more than one set of means for achieving some end, analysis focuses on selecting the "best" means. Of the many considerations which enter into a determination of "best," that of efficiency is receiving increasing attention. The relationship between efficiency (particularly cost benefit) considerations and our evaluation systems framework, is perhaps best captured by Alkin who offers the following:

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[1] Herbert Hyman, Charles Wright, and Terence Hopkins, Applications of Methods of Evaluation, Berkeley, University of California Press, 1962, p. 3.

[2] Edward A. Suchman, Evaluative Research, New York Russell Sage Foundation, 1967, pp. 31-32.

> Evaluation is the process of first identifying and then quantifying, or measuring, the relationships between students inputs and educational outputs and determining the combination of mediating factors which maximizes the educational outputs, given a constant financial input and controlling for the effects of external systems.1/

The point here is not that all evaluative studies must fall within this tightly structured, quantitative framework, but rather that cost benefit issues fall appropriately within the domain of evaluation, and further that the issue of efficiency is an important area of investigation for the evaluator.

Evaluation as an aid to decision-making--A second focus is that of providing decision makers with the kinds of information they need to improve the quality and impact of their decisions. Both the CIPP model and the model of CSE derive from this perspective. This is seen clearly for example in the CSE definition of evaluation:

> "Evaluation is the process of ascertaining the decisions to be made, selecting related information, and collecting and analysing that information in order to report summary data useful to decision makers in selecting among alternatives."2/

From this viewpoint the decision maker decides what areas of information he wants, and the evaluator then sets about providing that information. Although he may help the decision maker select informational areas, the evaluators' primary task, according to this perspective, is merely the provision of information. Much of the information gathered will likely be cast into the evaluation, systems framework described above. But the evaluator who services the decision maker is not permitted to impose his own system onto the analysis--he must use that of the decision-maker. This frees the study from much of the evaluator's own subjectivity, although it introduces the decision makers subjectivity into the analysis. The implications of this will be taken up in the next few pages.

1/ Marvin C. Alkin, Towards an Evaluation Model: A Systems Approach Los Angeles, Center for the Study of Evaluation of Instructional Programs, University of California, December, 1967, p. 1.

2/ Marvin C. Alkin, "Behavioral Objective Specifications in Evaluation: Relevant or Irrelevant," Western Regional Conference in Testing Problems, Princeton, Educational Testing Service, May, 1969, p. 2.

Both the CIPP and CSE models assert that the decision-maker requires a specific kind of information for each of the several sequenced stages involved in planning and implementing a program; the task of the evaluator is to supply that information. CSE identifies the evaluative activities corresponding to the sequenced decision-making areas as follows:

1. Systems assessment
2. Planning
3. Program implementation
4. Program improvement
5. Program certification[1]

Thus the evaluator collects different kinds of information depending on which stage of decision-making is involved. The evaluation systems framework, described previously, is used primarily in program evaluation. To a certain extent then, those definitions of evaluation which focus on input-output relationships, tend to ingore these other important decision-making steps for which evaluative exexpertise may be needed. The CIPP and CSE models are important in that they call attention to these other steps. However, their limitation is that they are based on an ideal model of decision-making; they assume that the decision maker can and actually does conduct a need assessment and proceeds rationally to allocate resources to programs. The reality is that often such is not the case; the evaluator is called in after the decision has been made to initiate a program, and often that decision has not been based on a needs assessment or on careful planning. Given this less than ideal situation, however, it may still be possible to evaluate a program. That evaluation is accomplished by describing a program in terms of its inputs, outputs and processes--as in the first definition above.

In summary, note the two important characteristics of the definition we have been discussing. First, it introduces the decision-maker's subjectivity into the analyses at the same time that it removes the evaluators' subjectivity. Second, it implies that the evaluator should take part in each stage of decision-making, although realistically this is not always possible. Thus, there are some situations for which this definition of evaluation is clearly appropriate, and others for which it is not.

Evaluation as the assessment of worth--To many the term "evaluation" has always implied the assessment of worth. Reflecting this viewpoint, Suchman states, "An evaluation is basically a judgment of worth--an appraisal of value."[2]

[1] Ibid., p. 3.
[2] Suchman, op. cit., p. 11.

Any such judgment or appraisal is necessarily based on value judgments. This point is the basis for one of the controversies today in the field of educational evaluation. There are some who maintain that value judgments must be placed outside of the domain of the evaluator--that the evaluator merely provides information to someone else (usually the educational administrator) who then may make value judgments. Others, notably Scriven, Glass, Stake, and Suchman, hold that the evaluator must somehow be responsive to this question of values. The nature of that responsiveness might take the form of merely identifying and making explicit those areas where values enter an analysis, or of actually imposing the evaluator's own values onto the situation. Glass for example takes the second position:

> Being of assistance to the program personnel--so they may better conduct their business--is a proximate aim of evaluation; the ultimate aim of an evaluation is to decide questions of worth. An evaluator's rendering of judgment on the composite value of an educational program poses a threat to teachers and administrators, whom he might live with more amicably "in a service capacity." Nevertheless, he is obliged to make the judgment; he cannot safely shirk the obligation.[1]

Glass was reacting against those who would leave the question of values to the decision maker--usually to the eudcational administrator. He argues that by so doing, important political and economic issues or values may be overlooked. While he may be right, this does not seem to justify going to the extreme of replacing the decision makers' subjectivity with that of the evaluator. Rather, it would seem that the evaluator should confront the issue of values by identifying and making explicit those areas where values are likely to enter into the evaluative process. Suchman states this position quite convincingly:

> The process of evaluating is highly complex and subjective. Inherently it involves a combination of basic assumptions underlying the activity being evaluated and of personal values on the part of both those whose activities are being evaluated and those who are doing the evaluation. Evaluation is a continuous social process, rarely stopping to challenge these assumptions or to bring the values into the open. The task for the development of evauative research as a "scientific" process is to "control" this intrinsic subjectivity, since it cannot be eliminated.[2]

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[1] Gene V. Glass, "The Growth of Evaluation Methodology," Evaluation Workshop of the Adult Education Research Conference, Minneapolis, March, 1970, p. 29.

[2] Suchman, *op. cit.*, p. 11.

Notice that he distinguishes between evaluation and evaluative research, the first being the judgment of worth and the second being the use of scientific methods in the service of evaluation. Since the distinction is not one common in the lietrature of educational evaluation, we prefer not to confuse the issue by using Suchman's definitions. Nevertheless, his treatment of the subject is quite outstanding and presents a strong case for training evaluative personnel to be aware of and to be able to deal with questions of value.

We suggest that evaluators should in fact be trained to identify and make explicit those areas where values enter analysis. Beyond that the question of "whose values" may carry him into issues of accountability and community control with which he may or may not wish to become involved. Since, as stated above, we are particularly concerned with training administrator-evaluators, we would expect that some of our students would in fact wish to pursue these issues.

Conculsion--In this section we have tried to show that there are several different viewpoints about what constitutes evaluation, and that each may be appropriate to some situations and not to others. We feel that a training program should make the student aware of each of thse viewpoints, and indeed the program outlined below touches briefly on each.

3. Orientation to Fieldwork and Qualitative Methodologies

The attempt to evaluate educational programs is only a recent concern; there is very little scientific knowledge about educational programs, on which to base current evaluations. For this reason we believe that it is important for evaluations to be heavily field oriented, employing qualitative as well as quantitative methodologies. Field research is required in order to isolate key process variables or to search out anticipated variables. Because the educational process itself is complex and so little understood, it is all the more critical that field methodologies be effectively employed to sort out the complex that can be understood only by observing it.

Our own approach to evaluation is based on three assumptions related to this issue of field research:

1. Evaluation of educational programs is a complex task which cannot be limited to the measurement and reporting of essentially quantitative outcomes for experimental and control groups using the pre-and post-testing model.

2. The evaluation of operational programs in educational settings requires a field rather than laboratory orientation which must seek its methodology and sociology as well as psychology and refine these methods in an educational context. Moreover, educators and educational consumers--supervisors, teachers, pupils, and parents--must

be involved with educational specialists for, in our view, the evaluation of educational programs is in many ways a unique process which must grow out of a fundamental understanding of education as well as competence in research.

3. Finally, we proceed from the assumption that while educational programs of the school and the community operate in the real world and thus cannot be manipulated in order to satisfy the canons of controlled experimentation, it is possible to be rigorous and empirical in field oriented research and evaluation--if the objectives of the program being evaluated are clearly stated and if the methods for the collection of qualitative data are subjected to the same scrutiny and standardization as methods used in quantitative analysis.

Against this backdrop of perspectives, we ourselves are now pursuing attempts to assess the nature of selected educational programs. These attempts are aimed at an examination of the content and process of entire programs from planning to implementation, and the resulting impact on performance in school community. Research is based primarily on a method which we call Situational Analysis, whereby on-site observers record and evaluate what happens--in this case, what happens in the program and in the schools and community where they work. The observers bring to their field work some questions or predefined issues, but these preconceptions are constantly redefined in light of their observations, and new information gleaned from written reports of othe comparable programs and visits to the sites by the resident staff. The process of redefinition occurs at periodic work sessions involving all field observors, resident research staff, and consultants. These meetings serve not only to generate ideas rooted in actual experience but to guarantee standardization of the issues (refined or revised) which mold the field workers' observations. From the system itself, then, major issues emerge as the criteria on which final evaluation is based.

We attempt to provide assistance to the programs under study by feeding back data gathered by field observers. In this way, the impetus for change is embodied not only in the final reports but in the research method itself. As a process extending over time, we feel that this type of evaluation has greater potential for influencing administrators than the more traditional evaluative report issued as a final dictum, an outside judgment capable of generating as much fear and resentment as change and growth.

The feedback process also contributes to the research method itself. By providing program administrators with information gathered in the field, we can elicit their reactions to the research and thereby sharpen the relevance of issues and techniques as the study proceeds. Irrelevant questions can be discarded while new ones may be articulated. The reactions of administrators thus help to redefine and refine the basic issues of the analysis.

b. The Training Model

The training model proposed here develops out of a comprehensive survey of materials on evaluation and qualitative research, and out of our own recent experience with several large-scale evaluations. The model has three components :

1. Exposure to a comprehensive overview of issues relevant to evaluation and fieldwork. This exposure is provided by two introductory "core" courses--one on issues broadly relevant to the task of evaluation, and one on fieldwork and qualitative analysis. Course outlines are presented in Section 1 below with proposed readings and exercises given in the appendices.

2. Practical experience as a "junior" team member in carrying out an evaluation--accompanied by a seminar to facilitate conceptualization and provide feedback. Our own experience, and suggestions deriving from that experience, are presented in Section B.

3. In-depth training in one or several specialty areas. Some thoughts about this component are presented in Section C.

1. A PROPOSAL FOR TWO COURSES

COURSE ONE; An Overview of the Theory of Evaluation and the Rationale and Design of Evaluative Studies. -- The outline for this course encompasses a wide variety of issues pertinent to evaluation in education. Each issue is presented in a lesson which is accompanied by 1) Comments for the instructor on the issue and its relevance to evaluation, 2) An introductory reading for the student, 3) Where appropriate, suggested exercises to provide the student with some experience in dealing with the particular issue and 4) A list of suggested readings for the instructor and the student.

Recall that a fundamental component of our training model is the internship as a member of a team-evaluation. Before joining that team, interns need an overview of what evaluation entails and how their specific "piece" of the evaluation integrates with others. This course is intended to provide the overview. It is an introduction. It will not produce skilled evaluators, although it can serve to introduce a program of formal training which will produce such evaluators.

Recall also that we previously discussed several sets of viewpoints about what evaluation entails, and we said that it was not our intent to advocate one over the others. Rather, we feel that students should be aware of several viewpoints and should be able to adapt to particular situations. For this reason, in the materials which follow, we do not attempt to "teach" any one model-such as the CIPP, Provus, or CSE Models; rather we suggest to the instructor where and how these models relate to the issues at hand. The instructor is free to pursue any model according to his preference. Because the course is to serve as an introduction to a particular local evaluation, we suggest that the instructor use materials and examples from that situation, as the basis for many of the exercises suggested in the course lessons.

Thus we have designed the course in such a way as to introduce the student to important issues and to encourage the instructor to adapt the lessons to the particular situation of the local evaluation. For these reasons the materials are not tightly programmed and much of the burden for success of the program must rest necessarily with the instructor.

Course One consists of six separate lessons, with purposes as follow:

- Lesson One is intended to acquaint the student with the term "evaluation" and with the different uses of that term.
- Lesson Two is concerned with the concepts "inputs", "processes", and "outputs" and with interrelationships among these.
- Lesson Three introduces the student to the system concept and shows how educational programs may be described as systems. Uses of the system concept in program evaluation and improvement are discussed.

- Lesson Four is designed to acquaint the student with some of the practical realities of trying to apply systems concepts to actual programs in education.

- Lesson Five focus on the application of systems analysis and related evaluation techniques to the decision process in education.

- Lesson Six presents a discussion of a number of controversial issues related to the evaluation field.

Detailed on Course One is given in Appendix E.

COURSE TWO; Qualitiative Data -- its Collection and Analysis: An Approach to Problem Solving. -- The necessity for training students to study and observe in natural, as opposed to laboratory, situations arises from the need to cope with the complexities of real-life educational and social programs. Obtaining greater understanding, and ultimately control, over these multi-dimensional situations requires the abandonment of a single factor theory -- a unitary independent-dependent variable framework -- and the development of a process-analysis approach to the examination of these kinds of situations. Accordingly we have sketched out a one to one and one-half year program designed to take the student through a series of field experiences, seminars, and related readings that will acquaint him with both the complexities and the potential richness of the collection, analysis and reporting of qualitative (generally non-statistical) data.

It should be stated at the outset that this is an introductory exposure and is not designed to produce highly skilled technicians. It is assumed, however, that the student comes with a fundamental grasp of basic experimental design and an understanding of such related issues as sampling, reliability, validity, hypothesis generation, and data analysis and reporting, and that he will therefore be able to make comparisons between his newly developing qualitative approach and the more traditional quantitative methods. This base of knowledge will provide an anchor to the student, yielding greater understanding as he moves through the field experiences and the readings presented.

Recall that in Part I we suggested that the core experiences of this program were an appropriate introduction to a variety of careers in evaluation and administration. For those who would specialize in the analysis and the collection of qualitative data, the importance of this course is obvious. For those who would branch into other areas of specialization, the course is useful in providing some basic conceptual and analytic tools, as well as an appreciation for the rationale underlying process-oriented evaluation. And specifically in the case of those individuals who may subsequently administer or direct teach evaluations, this course should enhance their ability to: 1) conceptualize, initiate or sponsor process-oriented evaluation programs; 2) hire, train, supervise, and monitor specialists in this area; 3) collaborate with these specialists in interpreting the findings by asking critical questions; and 4) develop tactics based on the findings which will suggest ways to manipulate program elements in order to approach program goals. In this way the administrator-evaluator should begin to incorporate conceptual tools and experiences which will allow him to move increasingly toward self-evaluation of the programs for which he is administratively responsible.

The course will be structured around a series of readings, a set of structured field experiences, and an "issues outline." The course is based on the following rationale: students learn in large measure by doing. Questions then arise relating to what they are doing, why they are doing it, and the potential implications of what they are doing. These questions are predicated on a bit of trial and error. However, time is precious both for the instructor and for the student. Consequently, we attempt to short-cut the process of learning-by-doing through utilizing selected anticipatory readings. For example, we provide readings which relate to general overviews of what field studies generally do and how they are often conducted. We present materials to enable the student to consider the possibilities of integrating the skills developed in this course with quasi-experimental designs for research,1/and of using qualitative and quantitative data in complementary and supplementary fashion.2/ Readings are given which can introduce students to areas that are rapidly becoming specialties of those utilizing qualitative analysis for description and understanding -- e.g. observation of school systems, classroom observation, and ecological psychology.

Our approach to selecting experiences and readings for this course has been eclectic. We have drawn from the fields of education, psychology, art, ecology, sociology, anthropology, economics, philosophy and educational anthropology. We are especially heavily indebted to the recent integration of the participant-observation literature by McCall and Simmons.3/ We have made use of both the literature, and of the insights of persons in these fields who have been interested in the process of learning to work creatively with qualitiative data. What we sought from all these resources, both human and litarary, were answers (or approaches to answers) to the following questions:

1) What is the process of observation all about?

2) How does one learn to be a skilled observer?

3) What conceptual steps (or experiences) will enable a student to recognize his own biases and value judgements and how these may affect the "objectivity," replicability, and ultimately the validity of his data?

1/ Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, New York, Rand McNally and Co., Reprinted from Handbook of Research on Teaching, American Educational Research Association, 1963, pp. 34-71.

2/ Samuel Sieber, "The Integration of Field Work and Survey Methods," Bureau of Applied Social Research, Columbia University, 1969, Prepared for a reading in the Sociology of Education, The Free Press (forthcoming)

3/ George J. McCall and J. L. Simmons, eds., Issues in Participant Observation, A Text and Reader, Reading, Mass., Addison Wesley, 1969.

4) How does one teach the student to deal with the inevitable interplay of theory, description and bias?

5) How does one learn to utilize the information or hunches gained through this process in order to a) obtain greater understanding of his particular problem, b) discover that he may have a problem is already being solved by a process he can now describe and consider replicating elsewhere, or d) generate new questions which must be asked if understanding is ever to be reached?

In sum, the basic issues of this course relate to learning to observe, and learning how learning to observe relates to learning to ask questions. The generation of empirically based theory is another possible outcome.

In order to give an unknown instructor a framework within which to integrate field experiences, readings, and his own preferences as to what is critical, we are providing three basic documents for his consideration.

Section I: Field Experiences. This consists of a temporally ordered (an deliverately so) set of field experiences for the student which will require supervision, guidance and integration of the readings. As we have stated previously, we recommend that these field experiences should be the core for the course, and we recognize that we have by no means exhausted the potentially relevant field experiences with these initial suggestions.

Section II: Issues Outline. This consists of the outline of the fundamental issues we believe should be touched upon in teaching the process-strategy to which we have alluded. We have tried to organize the issues so that they may be easily related to the field exercises. Thus as students carry out the exercises outside class, the instructor may wish to devote class time to discussion of issues suggested by the outline. Readings which relate to the issues are contained in Section III.

Section III: Bibliography. Readings related to the issues raised by the field experiences and the conduct of a field study -- and intended to illustrate or elaborate these issues -- are provided. Particularly useful readings are starred.

We have tried to plan for an experience lasting a year to a year-and-one-half. The length of time required would of course depend on how frequently the course meets and the depth in which issues are pursued.

Detailed information for the three sections of Course Two is provided in Appendix F.

2. THE PRACTICAL EXPERIENCE AS A "JUNIOR" TEAM MEMBER

As explained above, we velieve the practical experience with an ongoing evaluation to be a critical component of our training model. This experience exposes interns to schools and school personnel thus making them aware of a host of features of the "real world" that is never taught well in the abstract. We believe that the practical field experience is at the minimum as important as the conceptual knowledge provided through course-work.

A second important aspect of this experience is learning to function as a member of an evaluation team. We are fairly well convinced that the team approach to evaluation is the only way to attack most issues of evaluation today. Again the actual experience of serving on a team - of learning to coordinate one's own specialty with those of other team members - would seem to be valuable preparation for later professional participation as a full team member.

Our own experience indicates that it is possible to successfully employ interns as "junior" team members, at the same time that they are pursuing related academic course work. Experience also indicates that interns do in fact learn a great deal about practical issues of evaluation, about school systems, and about functioning as a team, through the internship. Because we had not established a degree program in evaluation, it was necessary for us to find ways to combine special training in evaluation with other degree programs in the College; programs such as curriculum development and administration were particularly appropriate in this regard, perhaps because they too focus on the practical field experience.

We brought both beginning and advanced students onto the evaluation team; their background and experiences were varied. Interns were given an overview to issues of evaluation and then participated throughout the year in a seminar intended to probe further into such issues as they arose. Each intern was responsible for spending several days a week observing and interviewing in one of the schools in our study, carrying out appropriate aspects of the study throughout the year. Each was responsivle for participating in the work being done for the project in one of the following substantive areas:

Psychometrics
Community-School Relationships
Political Science
Organizational Analysis
Sociology and Survey Methodology
Classroom Observation
Computer Technology
Coverage of UFT Affairs

Faculty associates were responsible for supervising several interns and participating in the study themselves. In most cases, a faculty associate supervised the study in 3-4 schools and was responsible for directing activities within one of the above substantive areas. A few of the advanced students were also responsible for directing activities withing substantive areas.

Besides participating in an evaluation seminar which was integrated with their field experiences (and for which interns received course credit), interns also took courses in pursuit of their academic interests. They were encouraged to pursue courses relevant to their own work in evaluation - most were pursuing a specialty area in depth. Thus interns participated in common experiences in evaluation, and yet were enrolled in a variety of degree programs.

This was an extremely practical arrangement for our own purposes in that it allowed us to provide interns with the stability of established degree programs, while we experimented with - or field tested - some of our own notions about what an established degree program in evaluation should encompass. The arrangement was made possible financially by the fact that we were funded for a large-scale evaluation for which student field workers would receive a modest fee for fieldwork and other professional contributions to the project. That fee was easily competitive with stipends offered for many other graduate programs. Our interns were required to perform work for that fee, but by integrating the work experience into course work (i.e., by granting some course credity) and by relating that experience to professional interests and growth, it seems to us that this particular work-study experience can be an attractive package for students.

We also built faculty associates into our staffing pattern and contracted specifically for released time from course work so that faculty could participate in the study and provide interns with intensive supervision and guidance. This assures the grantor that excellent professional supervision will be provided. Use of interns who receive a modest, but competitive reimbursement also makes it possible to provide extensive field coverage at a manageable cost.

Summary. -- Based on our own experience, we suggest that the following program for interns as "junior" team members is feasible and desirable:

1) Interns participate as members of a team evaluation group. It is possible to employ interns with a range of expertise. The type of participation which is appropriate depends on the students' own backgrounds, experiences and expertise.

   Generally, advanced students can be assigned positions of responsibility while beginning students can be prepared to move into such positions.

2) Since there are very few training programs in evaluation *per se*, it can be anticipated that few students, not even advanced students - will have been exposed systematically to issues of evaluation or of field work. We suggest that the introductory training program described above serves as an appropriate introduction. The introduction to issues of evaluation might be given even before formal participation in the project.

The introduction to field work would probably have to be provided throughout the year.

3) The internship experience should be accompanied by a continuing seminar which addresses the theoretical and methodological issues that arise in the field evaluation project.

4) Interns should pursue course work and a degree in some area of specialization. Many areas are appropriate.

5) Faculty should be freed from some of their teaching responsibilities in order to direct important substantive areas of the evaluation project and to provide supervision and guidance for interns.

6) A work-training package such as the one described above can be made attractive to interns who seek stipends and to contractors who desire maximum coverage at minimum cost.

7) By utilizing existing degree programs at the same time that common experiences are provided for all interns, it is possible to build a training program in evaluation into existing institutional arrangements. When definitive plans for a degree program in evaluation are established, it is possible then to move toward the formal establishment of such a program.

3. IN-DEPTH TRAINING IN A SPECIALTY AREA

Each intern should pursue in-depth training in one or several specialty areas related to evaluation. These areas might include, but are not limited to the following:

Administration
Curriculum Development and Evaluation
Psychometrics
Survey Research
"Foundations" such as coicology, economics, political science
Classroom Observation
Organizational Analysis
Fieldwork and Methods of Qualitative Analysis

Since currently most programs in these areas are not oriented specifically toward issues and techniques of evaluation, some thought needs to be devoted to the nature of the in-depth experience for each area. The intern and his faculty advisor might do this on an ad hoc basis for beginning programs, but as the programs develop at an institution, a faculty program committee should assume this function.

In this section we provide an example of one in-depth experience in a specialty area oriented to issues and techniques of evaluation. We selected the area of "Classroom observation" for these purposes. This seemed important first because of the obvious importance of classroom observation in conducting evaluative studies. Second, there seems to have been little thought to what comprehensive training in this area should entail; our proposal is a preliminary effort to provide some thoughts about this question. An intensive year-long course is proposed (the equivalent of four one-semester courses). A bibliography for the instructor and students is proved in Appendix G.

a. Systematic Observation of the Instructional Process - Proposal for a Year Long Course

Introduction. -- In order to prepare interns with an expertise in the area of classroom research, the following year long course is proposed. The course has been outlined under the assumption that students entering it will have already had an introduction to qualitative methods and observation. Additionally, to qualify them as specialists in the area of classroom research, during the course of their studies in a graduate program preparing them in evaluative research, they should also be exposed to data analysis techniques, basic statistical techniques, design, and sampling procedures, and a survey course in developmental psychology. This last is particularly important for persons interested in the early elementary years. The instructor is assumed to have had experience in conducting classroom observations and to have a knowledge of the literature in the field.

The proposed course will serve as a thorough introduction to the field of classroom observation. It will emphasize theoretical issues in the area of classroom research and their implication for an evaluation study. It will provide students with an acquaintance with existing instruments and good knowledge of one or two. Central to the course will be a planned laboratory experience which will involve regular observation in functioning classrooms throughout the year. The laboratory sessions will be coordinated with the lecture discussion sessions. As outlined below the course would require at least double the amount of work in and out of class, as compared with most graduate courses, and should be credit accordingly.

Lecture discussion sessions. -- In the lecture-discussion sessions, the instructor should introduce the students to the literature in the field, by first discussing in detail actual published reports of research using representatives forms of classroom observation instruments. The reports to be read and discussed should include qualitative and non-instrumented work such as Jackson's and that of Smith and Geoffrey, ecological frameworks, such as Gump's, sign systems, rating scales and reports presenting analyses of video- and/or audio-tapes. The purpose in reading and comparing these reports would not only be to acquaint the students with some systems (not to teach them to use the system), but more importantly to illustrate the various theortical issues in the field of classroom research. Discussion should cover the following topics: Purpose of observational research, research strategies, relation of observational research to courses of instruction and curriculum, conceptual frameworks, observer stance, empirically versus prescriptively oriented studies, techniques of data collection, types of instruments and associated strengths and weaknesses, problems of reliability, validity, levels of inference, particular dimensions and concepts typically applied to classrooms, treatment of variables, kinds of classrooms sampled and effects on the instrument, age level of pupils in relation to the appropriateness of the behavior collected. Appropriate readings and review studies should supplement research reports for the students.

The second half of the course should concentrate on the function of observation of instruction in an evaluation study. Again the class should read and discuss some evaluation studies in which classroom observations fromed a part of the analysis. From this reading should come an understanding of the contributions that ovservations of functioning classrooms can make to new or ongoing instructional programs, new curricula, new administrative arrangements, or new educational objectives. Discussion of the use of observational data should be in terms of extent of implementation, possibilities for feedback to the program implementers and to teachers, and for evaluation of the success of various objectives. Classroom data should be considered, thus, in terms of some of the proposed models (Stake, Provus) for doing evaluative research. Time should also be devoted to contrasting studies to be done from an evaluative framework with those proceeding from a basic research point of view. Classroom research should be compared to observational studies in other fields such as study of small groups or others, depending on the background and interests of the students and instructor. Finally, there should be some time devoted to reading and discussing possible new substansive sources for concepts to be used in devising classroom observations and ways of developing instruments from such concepts, for example decision theory or linguistic analysis. The sources chosen would depend on the strength of the instructor and students.

Laboratory sessions. -- A primary requisite for the planned laboratory session would be to make available to the students convenient functioning classrooms at a range of age levels from early primary to at least high school (perhaps some instructors in the graduate school would permit their own classes to be observed) and preferably, some range of educational philosophy represented. It would advisable for these classes to be observed by the instructor to check if different educational strategies are indeed being practiced prior to sending the graduate students to the classes. The students should not have to search for the classes, they should be provided with them and the course requirements should mandate regular observations in these classes by the students enrolled. Video and autio-tapes could supplement but not replace such live observation.

At the beginning of the year, students should enter and observe the classrooms in a relatively untutored fashion, and then after one or two such observations, and written presentation and subsequent discussion of what was found, sutdents should be sent in groups to the classes with instructions to reproduce a set of Jackson, Smith and Geoffrey, Gump, and Barker and Wright type observations. Possibly four persons each assigned to collect one kind of observational record would be assigned to the same classroom. This would produce material for discussion and comparison. An important feature of the laboratory sessions is the written presentation and discussion of the observations made at all stages during the year. If such systematic reporting is not done the experiences of the students will not reach the desired level of organization and sophistication, but will remain a concrete and unsystematic collection of impressions.

After this introductory period the students should divide themselves into taks groups of three or so, each of which would concentrate on a set of related concepts (such as cognitive, or ecological or affective or linguistic, etc.) and perhaps depending on the number of groups, a certain age level. The groups should form to capitalize on the students' own areas of substantive strengths or interests. As issues and topics arise in the lecture-discussion sessions, each group of students would, with the supervision of the instructor select existing instruments or parts of instruments and use them to make observation and/or to analyze recorded class sessions. For example, a group interested in cognitive concepts would use various types of instruments that focus on cognitive variables, such as sign instruments and rating scales, as well as try out category systems on audio recordings. Similarly various kinds of units would be exemplified by the practice observing, and so would systems that require varying degrees of inference. In addition to gaining experience with various kinds of instruments, the analysis of the data would allow experience with problems such as observer reliability and validity, and permit evaluation of the appropriateness of various systems and variables chosen for the behavior of the pupils and teachers being observed.

The instruments could be selected from the eighty or so systems reproduced in Mirrors For Behavior as well as from any other convenient source. The presentations and discussions should include comparisons among the various instruments as well as evaluation of how well the systems handle the substantive concepts involved.

Thus the first semester should be devoted to using existing instruments in a schedule coordinated with the lecture-discussions. The aims of the laboratory experience would be to give practical experience in using the instruments. The final task of the first semester should be to collect another set of fieldnotes which would be compared to those collected during the first weeks of class. It will be interesting to observe the changes the students perceptions of classes will have undergone as a result of their structured observation experiences.

The second semester should consist of two basic tasks. First the development of observational systems as part of various hypothetical evaluation programs, and secondly, the designing of an observational system in line with the student's interest, or alternatively, the refining of the instrument set up in the hypothetical evaluation program.

The instructor would provide a series of typical programs that might be evaluated. The programs could be curriculum programs, new teaching arrangements, new instructional techniques, and so forth. From these candidates, the students, in groups, would suggest a classroom observation instrument or analysis program, either by selecting from among appropriate existing instruments, or parts of instruments, modifying existing instruments, or by designing original instruments. The students would be required to outline the function of the instrument in terms of the evaluation program, perhaps fitting it into some particular model of evaluative research. They would have to justify its use both by the kinds of data it would provide to the hypothetical clients and in terms of what it soule contribute to the field of classroom research. This project could be combined with the second task of the course by having the student pursue his own research interest with the instrument, for example by inserting some research items, etc.

In any case, sample observations should be collected and analyzed and a prototype report be written and presented. Just as it was important during the first half of the course that written presentations of the observations be prepared and analyzed in systematic form, so it is essential in this part of the course that reports be prepared for the various stages in an observational study. For example, a proposal should be compiled for the justification of the particular instrument selected and the paper should be written and presented as if it indeed were an application for performing an observational study in the hypothetical evaluation program. The reports would be discussed with the instructor and compared with reports from other groups for differences in orientation and instruments due to the different circumstances of the hypotetical evaluation programs.

This work this second semester would allow the student more independence and freedom to pursue his own particular interests. Additionally it would provide the student with practical experience in instrument development and instrumentation. In fact, having a range of classrooms available for observation purposes would allow the students to evaluate the effect of various kinds of classrooms on the development of instruments. It might even be useful to have a specialist in instrumentation available for consultation by the students. Finally the experiences in the field, in conjunction with the lecture discussion sessions would force the student to translate his theoretical knowledge and conceptual experience into strategies for analyzing real behavior.

V. CONCLUSIONS AND RECOMMENDATIONS

Overall, the project can be counted a success. It generated and successful tested models for solving some of the most difficult school evaluation problems. Within this larger context, it identified a number of procedural problems and suggested ways these should be overcome. Finally, it provided a success experience for about 80 percent of the persons who entered it either as trainees or interns.

Since conclusions and recommendations are spelled out in the descriptions of individual components on preceding pages, they will not be treated in detail here. A few summary statements are in order, however.

The portion of the project carried out by the Council of the Great City Schools provides a model for upgrading the skills and greatly increasing the perspective of experienced school research and evaluation specialists. This project component also gave the Council a greatly increased research capability and allowed it to focus on a number of research-related urban school problems in a way which would otherwise have been impossible. The Council derived a great deal from the project and naturally would like to see it refunded. Within this context, the primary recommendations have to do with recruiting. In addition to experience in conducting research and evaluation activities in the school setting and an understanding of urban education and its problems, interns for this type of program must have an area of special interest they wish to pursue plus the ability to work independently and take responsibility without close supervision. Recruiting and personnel assessment procedures must be carried out so that the requisite skills and abilities are known to be present.

The component managed by the School District of Philadelphia provides a workable method of training persons especially for research and evaluation work in urban school districts. Recruitment of entry-level personnel in this field has been a serious problem in the large city school systems, and the Philadelphia experience illustrates a way this problem can be overcome. A number of recommendations for improvement of the operation of the model were listed previously. In general, the recommendation would be to institute similar training models in a number of locations throughout the country. The city school districts to be involved would need to have a top-quality research and evaluation operations, and there would need to be a local university, willing to cooperate and with quality course offerings in the technical areas. The Office of Education might set up a special subsection in its Research Training Branch for urban education, and a number of projects in different locations could be funded.

Teachers College, Columbia University developed a new evaluation model in its part of the project. Some trial of the model has been undertaken and it appears promising. Development is in the early stages, however, and a good deal of additional trial and assessment, revision, and retrial is needed. The model holds great promise for school districts because it is based in the reality which they face. Development needs to continue. The model should be tried in a number of school districts. Plans for training in use of the model need to be completed and a training program instituted, and persons so trained should be placed in school research divisions and their experiences assessed. In short, development of the model needs to be continued and then the model implemented. Only when the job is completed can the work at Columbia be of practical value to operating school systems. Further funding of the Teachers College work in this area is recommended.

Obviously, the evaluation problems of the large urban school districts were not solved through the project. An important first step toward developing solutions to these problems was taken, however, and it is not of great importance to continue and complete the task.

Appendix A

Introductory Section of the Report on Test Use in The Great City Schools

TESTING PROBLEMS

Critics of testing have pointed out that the tests being used are oriented to middle-class values because the test instruments are "standardized" upon samples of children drawn predominately from the middle class milieu. It is charged that the test items reflect unfairly upon inner city and disadvantaged school children whose limited experiences deny them the opportunity to perform well on most tests currently in use. It is argued that tests and test items must be more "relevant" to children's environmental experiences and that measurement problems are compounded by different learning and life styles.

Problems of measurement exist with children of different cultural heritage. Children with multi-lingual or non English-speaking backgrounds are placed at great disadvantage in the classroom. They lack the level of English fluency of their classmates. Such children tend to become separated from regular classroom settings for two reasons:

1) Tests that draw heavily upon verbal skills (English) discriminate against these children.

2) By the fact that nearly all classroom courses are taught in English, instruction in native English enhances the language sophistication of the average, middle-class American child, while the English-as-a-second language child is attempting to grasp enough lingual skills to function with the subject matter at hand. Therefore he tends to drop behind.

The use of test results becomes an important issue. If children are placed in learning tracks on the basis of questionable test scores, they may be placed in classes that fail to stimulate their intellectual growth. These children become part of a "locked-in," immobile instructional environment that is socially isolated. The result is an ever-widening gap between these culturally-different students and children of middle-class American Heritage.

COUNCIL INVESTIGATION

The Board of Directors of the Council of the Great City Schools has directed its research staff to investigate issues surrounding testing in the Great City Schools and the subsequent use of test results.

To proceed with its investigation on a sound basis, the Council research staff developed a Survey of Testing questionnaire that was mailed to each testing director in the Great Cities. The purposes of this survey were the following:

1. To determine to what extent the large, urban school systems, particularly the Great Cities, have been/are/will be involved in test instrument standardization.

2. To sample several aspects of the use of test results.

The Survey was divided into three parts:

Part 1 ....Information concerning test standardization

Part 2 ....Information concerning the use of test results

Part 3 ....All test currently used in the Great City Schools

This Document Summarizes the returns from the Great Cities.

GENERAL OBSERVATIONS

Test Standardization

Much criticism has been directed at school systems for testing disadvantaged, minority-group children with test instruments that were standardized and normed on middle-class children.

The school population of the Great Cities' Schools (approximately 4.5 million) is predominantly inner-city and disadvantaged. One objective of this Survey of Testing was to gain some perspective on the extent to which children in our member city schools have been included in the samples drawn by test publishers. While data gathered on test-standardization participation (past, present, and future) cites only a crude city-by-city measure, without regard for sample sizes within those cities, the data indicates that, thus far, the most widely used test -- the Stanford Achievement Test -- will draw standardization samples in only two of the Great Cities in the 1973 edition.

Use of Test Results

Two items were included in the survey to determine how test results are used. Eight of eighteen Great City School Systems have had their test results published in local newspapers. No effort, to our knowledge, has been made to evaluate this public relations aspect of testing programs or the political repercussions upon large city school systems due to varying policies in releasing or withholding test results.

The more important item in this section revealed that five large city systems acknowledged placing students in learning tracks on the basis of test results. Four school systems indicated the tests they use as one factor in student placement procedures. Three systems indicated the use of intelligence or mental ability tests; one system cited achievement tests only.

Individually-Administered Mental Ability Tests

The Wechsler Scales and the Stanford-Binet appear to be used concurrently by the same cities in their Psychological Services, ESEA, and Follow-Through programs.

Group Mental Ability Tests

The Lorge-Thorndike Intelligence Test is being used by eight of the Great Cities, the Kuhlmann-Anderson is used in five Great Cities.

Readiness Tests

The Metropolitan appears to be the most widely accepted readiness test.

Achievement Tests

The Stanford Achievement Tests are the most popular of the achievement tests. Other widely used tests are the Cooperative Tests, the Metropolitan Tests, the California Tests, the Comprehensive Tests of Basic Skills, the STEP Tests. The Gates-MacGinitie Reading Tests appear to be a popular test for non-regular school programs.

TESTS STANDARDIZED SINCE 1964 AND THE PARTICIPATING GREAT CITIES

Academic Interest Index	Milwaukee
Analysis of Learning Potential	Philadelphia San Francisco
Bailey Infant Scales of Development Standardization Project	Detroit
Preference Study Using Bender-Gestalt Test With Children (3-8)	Detroit
Bennet Mechanical Comprehension Test	St. Louis
Bilmore Oral Reading Test, Series II	Milwaukee
Boehm Tests of Basic Concepts	Milwaukee Philadelphia San Francisco St. Louis

California Tests of Basic Skills	Buffalo Milwaukee
California TEst of Basic Experiences	Memphis
Cognitive Abilities Test (Item Analysis & Standardization)	Milwaukee
Contemporary Mathematics Tests	Milwaukee
Content Evaluation Series	Milwaukee
Cooperative Primary Tests	Milwaukee
Comprehensive Tests in Basic Skills	Cleveland Portland San Francisco St. Louis
Detroit Reading Readiness Test (validation of revised test)	Detroit
Dictation Test (Seniors)	Detroit
Dimensions of Temperament	Milwaukee
The American Association of Health, Physical Education & Recreation Physical Fitness Tests (Special Education Classes)	Detroit
Health Education Standardization Test (Teachers)	Detroit
Metropolitan Achievement Tests	Memphis
Metropolitan Achievement Tests Standardization (Program 2-8)	Memphis
New York State Arithmetic Test (1969)	Buffalo
Otis-Lennon Item Analysis Research	Chicago
Otis-Lennon Mental Ability Test	Chicago
Otis-Lennon Mental Ability Test Normative Study (1-3)	Detroit
Personnel Tests for Industry	Philadelphia
Pimsleur Language Aptitude Battery	Milwaukee
Pimsleur Language Aptitude Battery (validation, grades 9-12)	Detroit
Primary Achievement	Portland

Quick Test (restandardization, K-12)	Detroit
Social Studies Achievement Test	Detroit
Stanford Early School Achievement Test	San Francisco
Structure of Number Systems Test	Detroit
Survey Reading Tests	Portland
S.T.E.P.	Portland
S.T.E.P. Series II (Norming Program, 3-12)	Memphis
SCAT	Cleveland, Detroit
SCAT (grades 9 & 10)	Memphis
SCAT (normative study - grades (10-12)	Detroit
SCAT II	Portland, Milwaukee
Tests of Basic Experiences	Philadelphia
Tests of Basic Ecnomics	Milwaukee
Typing Tests for Business	San Francisco
U. S. Armed Forces Institute Course Exam	Milwaukee
Wisconsin Contemporary Math	Milwaukee

TEST STANDARDIZATION INFORMATION

2. Is your school system currently involved in any commercial test standardization effort?

Yes 8 No 10

Current Test Standardization Efforts Involving Eight of the Great Cities:

Test	Publisher	City
California Achievement Tests	McGraw-Hill	Chicago
Cooperative Tests	Educational Testing Service	Baltimore
Iowa Tests of Basic Skills	Houghton-Mifflin	Portland
Metropolitan Achievement Test (1970 Edition)		Chicago Pittsburgh
Modern Economics Test	Houghton-Mifflin	Milwaukee
National Educational Development Test (1970)	Science Research Associates	Memphis

Short-Form Test of Academic Aptitude		Chicago
STEP II (Sequential Tests of Educational Progress)	Educational Testing Service	Baltimore Chicago Detroit Milwaukee Philadelphia
SCAT	Educational Testing Service	Baltimore Detroit Philadelphia
Tests of Basic Experience	McGraw-Hill	Baltimore
Wisconsin Modern Math Tests		Milwaukee

3. Has your system been selected by a test publisher for participation in future test-standardization efforts?

Yes 13 No 5

4. Have you agreed to participate in such future efforts?

Yes 9 No 6 Under Consideration 1 No Response 2

Future Standardization Efforts in Nine Great Cities:

Test	Publisher	City	Date
Iowa Tests of Basic Skills	Houghton-Mifflin	Atlanta	Fall 1970
		Chicago	Fall 1970
		Cleveland	- - -
		Detroit	Fall 1970
		(primary battery,	Spring 1971)
		Philadelphia	Spring 1971
Stanford Achievement Test (1973 Ed.)	Harcourt, Brace & World	Baltimore	Fall 1970
		Milwaukee	Fall 1970
Tests of Academic Progess		Chicago	Fall 1970
		Detroit	Fall 1970
Cognitive Abilities Test	Houghton-Mifflin	Philadelphia	Fall 1970
		Detroit	
		Chicago	
National Educational Development Tests	Science Research Associates	Cleveland	- - -
		Chicago	Fall 1970
		Minneapolis	Fall 1970
		Washington, D.C.	1970-1971

USE OF TEST RESULTS

5. Does your school system publish test results in local newspapers?

Yes 8 No 10

Great Cities that have had test results published in local newspapers:

Baltimore
Chicago
Detroit (1969)
District of Columbia
Los Angeles
Philadelphia
San Diego
San Francisco

Comments:

Results are released to newspapers for publication

The press repeats reports made to Board of Education

6. Does your school system place students in learning tracks on the basis of test results?

Yes 5 No 12 No Response 1

Comments:

1) Partially

2) "Learning Tracks," No; "Guides for Instruction," Yes.

3) Test scores are used in conjunction with other information in the assignment of pupils. The concept of a "learning track" is not employed in our system.

4) Results of all city-wide tests are used in connection with various class level placements, but are not a single criterion for programming, nor are students actually "tracked" as they may be enrolled in several classes of different levels. Teacher's recommendation is also utilized in determination of appropriate class level assignments.

5) Test results are used only as a partial criteria in tracking reading readiness classes, classes for mentally retarded, and scholars (academically talented).

6) A scholastic aptitude test score is only one element of information for placement in special or advanced study classes. It is to be used in conjunction with the child's past history

of achievement, teacher observation of classroom performance, motivation, interests, and parental opinion.

7) For specific learning deficiencies and not on a track basis.

Tests cited (in four districts) as one factor in student placement policies:

District 1. - Kuhlman-Anderson
Stanford-Binet Intelligence Test

District 2. - Iowa Test of Basic Skills
Stanford Achievement
Iowa Tests of Educational Development

District 3. - Kuhlman-Anderson
Otis-Lennon

District 4. - WISC
Stanford-Binet

This section of the testing report provides an overview of the work of Mr. Calendine and illustrates the important information he produced. The report also includes a 91-page listing of every commercially-produced test in use in each Great City district.

THE RESEARCH COUNCIL OF THE GREAT CITY SCHOOLS

Agenda for February Staff Training Session
Rivermont Holiday Inn
Memphis, Tennessee
February 25, 26, 27

Wednesday, February 25:

8:15	BREAKFAXT -- Room to be Announced. Opening Remarks and Introduction of Resource Consultants	Dr. John Hayman
9:15	ISSUES IN MEASURING AFFECT: General Introduction to the Session Topic	Dr. David Orr
10:45	Break	
11:00	SMALL GROUP SESSION: Begin Outlining Specific Problems Experienced in School Systems	Participants and Staff
12:00	LUNCH	
1:00	GENERAL NATURE OF ATTITUDE FORMATION AND CHANGE: Emphasis on Problems Identified by Participants and on Areas of Concern in Public Education	Dr. Marvin Shaw
3:00	Break	
3:15	SMALL GROUP SESSION: Continue Outlining Problems	Participants and Staff
5:30	COCKTAIL PARTY	Participants and Staff

Thursday, February 26:

9:00	SPECIFIC ATTITUDE MEASURING INSTRUMENTS: Focus on the Likert Technique	Dr. Everett Rogers
10:30	Break	
10:45	GROUP SESSION: Practicum on Developing a Likert Scale	Dr. Marvin Shaw and Participants
12:00	LUNCH	

1:30	GENERAL ATTITUDE MEASURING INSTRUMENTS: Focus on the Semantic Differential	Dr. Bradley Greenberg
3:15	Break	
3:30	SMALL GROUP SESSION: Practicum on Developing a Semantic Differential Scale	Dr. Bradley Greenberg and Participants
7:00	PRESENTATIONS BY RESEARCH STAFF: Experiences in Developing and Using Affective Instruments	Miss Marion Kilbane Dr. John Temple Dr. Leo Weisbender

Friday, February 27:

9:00	MEASURES OF AFFINITY: The Sociometric Technique	Dr. Everett Rogers
10:45	Break	
11:00	SMALL GROUP SESSION: Determination of Ways the Sociometric Technique Might be Used in School Research	Participants and Staff
12:00	LUNCH	
1:30	REPORT BACK FROM SMALL GROUPS; GENERAL SESSION AND FINAL WRAP-UP	Participants and Staff
3:30	Session Ends	

Appendix C

The Research Council of the Great City Schools

Research Directors Seminar
Vail Village Inn
Vail, Colorado
May 19-23, 1970

SYSTEMS VIEWPOINT IN PROJECT DEVELOPMENT

Wednesday, May 20, 1970

MORNING	
First Session	
Systems Approach in Dealing with R,D,D, and E Problems	Dr. Desmond Cook
Second Session	
Basic Systems Concepts	Dr. John Skalski
AFTERNOON	
Third Session	
Systems Tools and Techniques, I	Dr. G. Trzebiatowski
Fourth Session	
Systems Tools and Techniques, II	Dr. Cook and Dr. Trzebiatowski

Thursday, May 21, 1970

MORNING	
Fifth Session	
Research Director - A Systems Manager	Dr. Cook
Sixth Session	
Systems Thinking in Single Project Planning and Development	Dr. Skalski
AFTERNOON	

Eleventh Session

Implications of Using the Systems Approach, For The Research Director	Resource Panel

Twelvth Session

What Does It All Mean? Where Do We Go From Here?	Directors Panel

Appendix D

Report of Training Institute for
Research and Evaluation Personnel
of the Great City Schools

Introduction and Background

During the dates of September 21-23, 1970, Teaching Research conducted a training institute, in Monmouth, Oregon, for research and evaluation personnel of the twenty-one cooperating School Districts of The Council of the Great City Schools.

Preliminary planning and negotiations for the training institute had been negotiated with Dr. John L. Hayman, Jr., Director of Research of The Council of the Great City Schools during the spring of 1970. It was agreed that a three day institute would be held during late September, 1970, in Oregon for research and evaluation personnel of the Great City Schools Research Departments to be organized around the four areas of proposal writing, instructional systems, measurement and evaluation.

It was further agreed that the following details would be included in the institute:

1. A pre-test to assess the competence level of each participant before instruction.
2. Independent learning activities, adjusted to each individual's needs, to the extent possible.
3. A post-test to measure growth.
4. Certification as to what each participant was able to do in relation to his selected area of study.
5. An evaluation of the effectiveness of the institute, copies of which would be sent to each Research Director.

Participants of the institute numbered thirty . The Council of the Great City Schools assumed the responsibility for their selection and notification. Arrangements for transportation and housing were handled by Teaching Research. All participants were met at the Portland International Airport and motored 50 miles south to Salem where they were lodged at the Marion Motor Hotel. Participants were assigned to cars by groups and driven 15 miles to the Oregon College of Education campus in Monmouth each day.

Objectives

The purpose of the institute was to bring research and evaluation personnel of the Great Cities research departments together to:

1. Provide instruction in the areas of measurement, evaluation, instructional systems, and proposal writing.

2. Provide an environment conducive to independent learning activities and adjusted to each individual's needs' and

3. Provide an assessment of the competence level of each participant in relation to his area of study.

In addition to the above, terminal behaviors expected from each of the four areas of instruction were defined and negotiated with each participant and his instructor.

Program

In general, the instructional sequence minimized passive mas-reception and maximized active individual and small group involvement. The institute was initiated Monday, September 21, 1970 at 8:30 p.m., with an orientation during which participants and staff were introduced and specific goals and procedure of the institute were clarified.

The total group was then divided into four subject groups. Participants were given the choice of joining any one of the following: evaluation, instructional systems, measurement or proposal writing. The group assembled in separate areas and spent the remainder of the morning being pre-tested and negotiating individualized performance goals for each member. The latter was accomplished by the instructor of each group sitting with each member of his group to (1) review the results of that persons post-test, (2) clarify for the member, any questions he might have concerning the behavioral objectives established for that subject group, (3) identify specific interests of that member in the area, and (4) negotiate a set of behavioral objectives with that member which took into consideration the members pre-knowledge of the area, his expressed interests in the area and reasonable limits of departure from the goals established for the institute.

From these negotiations, individualized learning experiences were then planned for the remainder of the institute time period. With the exception of the final total group meeting during the late afternoon of the last day of the institute, the institute was devoted to independent learning activities.

Two "extra" learning activities were also planned and carried out during the institute. Noon luncheons were scheduled in a convenient local restaurant with provisions for all other staff members of Teaching Research not involved in the institute (approximately thirty) being present.

Several lasting acquaintances between participants and Teaching Research personnel have emerged from these informal interactions with resulting benefits to both The Council of the Great City Schools and Teaching Research.

The second extra activity involved the transportation of institute participants and staff to the Oregon Coast on the afternoon of the second day to relax and enjoy the fall beauty of the rugged coast and to partake of a variety of excellent seafood. Although no learning experiences directly related to the goals of the institute were planned as a part of the coast visit, obvious indirect benefits did result as noted in subsequent expressions of pleasure and satisfaction from participants and a generally more relaxed attitude on their part during the remainder of the institute.

Appendix E

Teachers College Course One:
An Overview of the Theory of Evaluation and the Rationale and Design of Evaluation Studies
Detailed Design

LESSON ONE: What is Evaluation?

Comments to the Instructor

The purpose of this lesson is to acquaint the student with the term "evaluation." Recall that in Part I, three sets definitions for that term were presented. In this lesson we introduce the student to these several viewpoints, merely to orient him to the materials which follow. It is not necessary to go into each viewpoint in detail at this time. We suggest that the instructor may wish to call attention to the following:

a) Evaluation is often concerned with issues of "worth".

b) Determinations of worth may focus on program outcomes.

c) Value judgments are involved in determining worth.

d) Decision making is based on information about program operations and program outcomes; one task for the evaluator is to provide such information.

Student Reading

As a newcomer to the field of evaluation, if you were asked to define evaluation it is likely that you would define it as having something to do with determining the worth, or value of something. This is in fact the common "everyday" association with that term. To push a little further we might ask how one determines worth--in this case, the worth of an educational program.

One way might be to determine how successful a program was in doing what it was designed to do. A reading program which didn't teach reading might, for example, be judged worthless. Another way of determining worth might be to compare a program's outcomes with those of another program. The program with the "better" outcomes might be considered to have greater worth. An important question here though is what is meant by the term "better." Sometimes the issue is fairly clear cut. For example, if program A raises reading scores by one grade level, and program B by two--other things being equal, program B is better. However, the issue is seldom so clearcut. How does one evaluate reading gains as opposed to "citizenship" gains as opposed to changes to "self-concept?" Such determinations necessarily involve value judgments--and in making an evaluation, value judgments are almost always present.

Related to determining worth, is the process of making decisions based on that determination. Should a program be continued or not? Should certain features of a program be changed, and if so, in what way? To make such decisions, information is needed on how a program operates. Some who have recently concerned themselves with issues of evaluation in education assign to the evaluator the task of providing that information. In this case evaluation is viewed as the provision of information on which determinations of worth and related decisions may be based.

In the materials which follow, we try to give you some knowledge of each of these perspectives regarding the nature of evaluation.

Suggested Exercise

Students might be asked to "evaluate" a course or experience retrospectively; they might be asked to include some thoughts about how the course or experience might have been improved. The instructor can use this opportunity to call attention to the points outlined in the above comments to the instructor. It seems to us particularly important that he (1) call attention to students' value judgments concerning "worth" and the issue of what constitutes "improvement," and (2) introduce the need for more systematic approaches to the evaluation of programs.

Suggested Readings

*Berlak, Harold. "Values, Goals, Public Policy and Educational Evaluation." Review of Educational Research, Vol. 40, No. 2, April, 1970.

Glass, Gene V. "The Growth of Evaluation Methodology." The Evaluation Workshop of the Adult Education Research Conference, Minneapolis, Minnesota, March, 1970.

*Klein, Stephen. "The Center's Changing Evaluation Model." UCLA Evaluation Comment, Los Angeles, Center for the Study of Evaluation, Vol. 2, No. 4, Jan., 1971.

Scriven, Michael. "The Methodology of Evaluation." Ralph W. Tyler et. al., Perspectives of Curriculum Evaluation. Chicago, Rand McNally and Co., 1967.

Stake, 'obert E. "The Countenance of Educational Evaluation." Teachers College Record, Vol. 68, No. 7, April, 1967.

*Stufflebeam,

Suchman, Edward A. Evaluative Research. New York, Russell Sage Foundation, 1967.
* (Chapters 1-3 are suggested for students.)

Tyler, Ralph W., ed. Educational Evaluation: New Roles, New Means. 68th Yearbook of the National Society for the Study of Education, Chicago, University of Chicago Press, 1969.

*Starred readings are suggested for students.

Wittrock, M.C. and David E. Wiley, eds. The Evaluation of Instruction. New York, Holt, Rinehart and Winston, Inc., 1970.

Worthen, Blaine. "Toward a Taxonomy of Evaluation Designs." Educational Technology, Vol. VIII, No. 15, Aug. 15, 1968, pp. 3-9.

LESSON TWO: Input-output Models

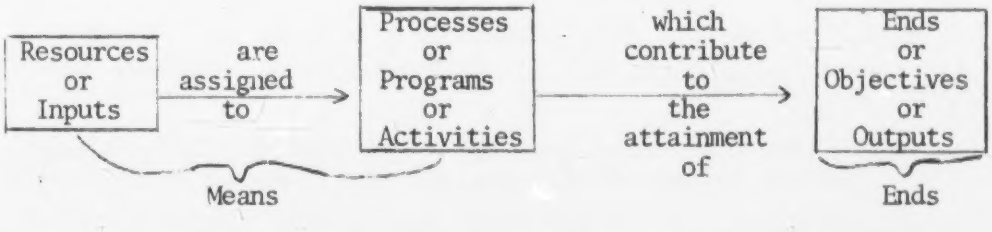
Comments to the Instructor

The concepts presented in this lesson are relevant to the first set of definitions presented in Part I above (pp.   ). Those definitions were concerned with the relationship among inputs, processes and outputs. This lesson is designed to introduce the student to these concepts, particularly as they relate to education. The purpose of the lesson is to help the student grasp the conceptual significance of the concepts. Practical difficulties involved in employing this conceptual approach are not discussed until Lesson Four.

Student Reading

Input-output models--in theory

One way to describe an educational program--in terms of what it's doing, and how, and perhaps even how well--is to view it as a system that uses resources in such a way as to create an impact on students and perhaps on the surrounding community. Resources are called inputs, impact is called output, and the way in which inputs combine into produce output is called process. Often the evaluator attempts to analyse a program in these terms. His concern here is one of means-end analysis. He asks which means produce which ends. This concern is embodied conceptually in the following input-process-output model.

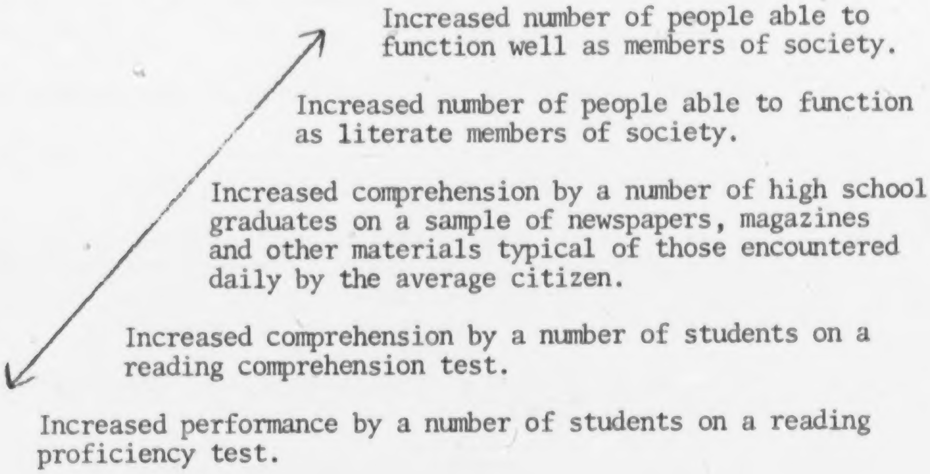

Resources or Inputs
are assigned to
Processes or Programs or Activities
which contribute to the attainment of
Ends or Objectives or Outputs
Means
Ends

By applying this schema to an ongoing program, the evaluator can ascertain whether a program is accomplishing what it is supposed to accomplish (i.e., whether the actual ends are similar to the ends which were envisioned at program inception), and which process or input variables account for success or lack of success.

Ultimately, the purpose of this kind of analysis is to find the *best* means for accomplishing certain desired ends. One uses this type of analysis in asking, for example, whether reading program A or reading program B provides the best means for accomplishing certain given objectives. Or one might ask how reading program A might be changed in order to make it more effective. Let us turn here to a fuller discussion of the components of this model, with specific attention to the content of each component in education.

(a) Ends (goals, objectives, outputs)

All planned action is undertaken with a view toward accomplishing some end. Statements or descriptions of these ends may range from very broad general statements on the one hand to very specific operational definitions on the other hand. The term "goal" is generally associated with the former, and ther "objective" with the latter. Theoretically, then, one can view ends as ranging from general to specific, from abstract to concrete; goals fall at one end of the continuum and objectives (some educators would say "behavioral objectives") fall at the other extreme. That is to say, ends may be stated with varying degrees of specificity. They may range from very specific behavioral objectives, to ends which lack behavioral specificity but which are more concrete than goals, to abstract goals. Thus the following might be illustrative of one type of ends continuum for education:[1]



Increased number of people able to function well as members of society.

Increased number of people able to function as literate members of society.

Increased comprehension by a number of high school graduates on a sample of newspapers, magazines and other materials typical of those encountered daily by the average citizen.

Increased comprehension by a number of students on a reading comprehension test.

Increased performance by a number of students on a reading proficiency test.

(Outputs and Objectives)

The term "output" is yet another term used to designate ends. Usually the terms "goals" and "objectives" describe planned "targets," while "outputs" refer to program results, achieved by aiming at planned targets. In other words, at the beginning of a program, ends are stated as objectives or targets; at the end of a program when ends are actually achieved, we call them outputs. Outputs, like objectives are usually described in specific concrete terms. For our purposes here we shall define objectives as specific statements of program targets, and outputs as specific statements of program results. Ideally, then, outputs will be the same as objectives. The following are just some examples of educational outputs (objective) proposed in the literature:

---

[1] Suchman, op. cit., p. 101.

learning in standard subjects

achievement in special subjects

improvement in the ability to reason

stimulus to intellectual curiosity

stimulus to creativity

development of social poise

reduction of emotional disturbance

improvement of physical health

various aspects of socialization including prevention of delinquence

opportunity option of further education[1]

Some educators insist that objectives (outputs) be described in more specific terms than the above. The most extreme version of this position is that of the Behavioral objectivists who insist that a well-written objective must specify all of the following:

1) What it is that a student who has mastered the objective will be able to do,

2) under what conditions he will be able to do it,

3) to what extent he will be able to do it.[2]

Written to fulfill these requirements, behavioral objectives are highly specific statements. The following example of a behavioral objective demonstrates the degree of specificity that is required:

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[1] J.A. Kershaw and R.N. McKean, Systems Analysis and Education, Santa Monica, Calif., The Rand Corp., Oct., 1959, p. 8.
Jesse Burkhead, Thomas G. Fox, and John W. Holland, Input and Output in Large-City High Schools, Syracuse University Press, 1967, p.24-26.

[2] Thorwald Ebensen, "Writing Instructional Objectives," Phi Delta Kappan, 48:246, Jan., 1967.

> Given ten pairs of short prose passages--each pair having one selection by Ernest Hemingway and one by a different author the student is able, with at least 90 percent accuracy, to choose the 10 selections written by Hemingway.[1]

(Goal)

The term "goal," on the other hand, may be defined as a general statement describing an abstract state which an individual or group would like to attain. An educational goal is thus a general statement about kinds of education that are desirable, or the kinds of things that education should accomplish. An example of this kind of statement is a goal proposed by the U. S. Office of Education.

> The overall purpose of the educational system is to foster self-evaluation and self-fulfillment--to enable each individual to function successfully and to the full extent of his abilities in both the economic and non-economic sectors of society. Each individual must have opportunities for both occupational training and for other kinds of education for self-development, including the ability to make informed and constructive decisions.[2]

Although it may not be made explicit in a statement of educational goals, often such goals are derived from societal goals, or notions about what is desired for the individual and society. That is to say, educational goals are often believed to contribute in some way to social and individual goals or to the things that are desired for individuals and society. Thus equality of educational opportunity is believed to contribute to increased social equality, and civics education is believed to produce an informed electorate. Whether or not such is, in fact, the case, is the subject of debate and some study. As a contributor to this study it is important for the evaluator to be aware of the context within which educational goals are postulated. Are the goals compatible with that context? And if not, what are the implications of the divergence?

(b) Inputs or Resources

Goods and services--materials and supplies and human effort--are required to produce desired ends. Inputs are the goods and services--human and non-human--which are used to produce those ends. There are a variety of ways to categorize inputs for education. One simple taxonomy is offered here merely for purposes of illustration:

Student Time

Personnel time

---

[1] Ibid., p. 247

[2] U.S. Dept. of Health, Education, and Welfare, Planning Programming Budgeting, Washington, D.C., April 17, 1968, p. 21

administrative

teaching

clerical

maintenance

auxiliary (guidance, health, library)

Buildings and equipment [1]

(c) Programs or processes

Educational programs or processes are the actual activities carried out in schools or educational settings. The following description of those activities is provided by a prominent writer on educational evaluation:

> Transactions are the countless encounters of students with teacher, student with student, author with reader, parent with counselor--the succession of engagements which comprise the process of education. Examples are the presentation of a film, a class discussion on the margin of a term paper, and the administration of a test. [2]

More technically, within the context of an input-output model, programs or processes may be viewed as "transformations" or "mediating factors,"[3] That is to say, they mediate or link input causally to output: or they may actually transform an input into an output.

Characteristics of the programs include proportions and amounts of inputs used *and the dynamics of their interaction over time.* It is this latter characteristic which makes it so difficult that the way in which a teacher interacts with a student (if he is authoritarian instead of permissive for example) influences the student's learning, then it is insufficient to describe the program as involving just *any* teacher-student interaction; the quality of the teacher-student interaction must be specified. Implications of the problem of describing the dynamics of programs are discussed more fully later in this course.

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[1] Burkhead, *op. cit.*, p. 24-26

[2] Robert E. Stake, "The Countenance of Educational Evaluation," *T. C. Record*, 68:528, April, 1967.

[3] Marvin C. Alkin, "Behavioral Objective Specifications in Evaluation: Relevant and Irrelevant, "Western Regional Conference on Testing Problems, Princeton, N.J., Ed. Testing Service, May, 1969, p. 43 .
Gary Andrew and Ronald E. Moir, *Information-Decision Systems in Education*, Itasca, Ill., F.E. Peacock Publishers, Inc., 1970.

Suggested Exercises

Students might be presented with a simple list of "scrambled" input process and output variables, and be asked to decide what kind of variable each one was. One such list is included in the Provis training materials. Or the instructor may easily develop his own list. It is important for purposes of this lesson to keep the exercise simple. For the moment, the student is asked merely to grasp the conceptual differences among resources, processes and output. Practical difficulties in trying to sort out real situations are brought out in later lessons. If questions of feasibility are raised, the instructor should use them to lead into these later lessons.

Suggested Readings

*Alkin, Marvin C. "Behavioral Objective Specifications in Evaluation: Relevant or Irrelevant." Western Regional Conference on Testing Problems, Princeton, Educational Testing Service, May, 1969.

*Alkin, Marvin C. Towards and Evaluation Model: A Systems Approach. Center for the Study of Evaluation of Instructional Program, Los Angeles, University of Calif., Dec., 1967.

Burkhead, Jesse, Fox, Thomas and John W. Holland. Input and Output in Large City Schools. Syracuse, Syracuse University Press, 1967.

*Ebensen Thorwald. "Writing Instructional Objectives." Phi Delta Kappan, Vol. 48, No. 5, January, 1967, pp. 246-247.

*Kenshaw, J.A. and R.N. McKean. Systems Analyses and Education. Santa Monica, The Rand Corporation, October, 1959

LESSON THREE: Input-Output Models as Systems

Comments to the Instructor

By this point the student has already been exposed to some concepts of systems. The purposes of this lesson are to introduce the concept of "system" explicity, to show how educational programs may be described as systems, and to suggest that systems concepts are useful to program evaluation and program improvement..

Student Reading

No doubt you are familiar with the term "system." Recently there has developed significant interest in using a formal concept of "system" for describing, analysing and learning to manipulate certain kinds of social programs, institutions or situations.

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*Starred readings are suggested for students.

The input-process-output model may in fact be thought of as a system. That model is encompassed by a definition which describes a system as "a set of interrelated facors that are used together to produce an output output."[1] Thus inputs and processes combine to produce an output.

Important in the definition of systems are inter-dependent or interrelated, a change in one element brings about change in others. Thus by discovering the nature of dependencies or relationships, one can learn how to manipulate elements of a system in order to achieve desired effects or changes in effects. In education, for example, the decision-maker may want to know how to change some process element in order to bring about an improved program output.

Educational programs, indeed educational systems, may be described and analyzed in terms of an input-output systems model which calls attention to the nature of relationships among system elements. The model provides an aid to planning program implementation, evaluation, and to the many areas of decision-making that accompany these activities. Analysis of the system indicates to the decision maker what kinds of changes among inputs and processes may be necessary if desired outputs, or objectives, are to be met. Modification of objectives is also permitted within this analytic framework. Later in the course we will discuss more fully how the input-output systems model can be used to assist the decision-maker or administrator as he carries out his program planning, evaluation and implementation.

The systems and its environment

One may conceive of the entire universe as a system whithin a system within a system. The particular system that is selected for analysis depends of course on the problem to be studied. It is important to carefully define the boundaries of the system to be studied; often, particularly in edication such definitions are, of necessity, quite arbitrary. In defining a particular system as the one of immediate concern one must also bear in mind the factors in the broader environment, external to that system, that may in fact produce an impact on the system. If a factor is likely to produce a significant impact, one may want to include it within the defined system. It not, such factors are defined as part of the "environment," which surrounds the system, or as part of "external systems."[2]

In education, the environment is often viewed as encompassing non-school, community, family socio-economic or political factors. The system itself is often definced as a particular school or set of schools. However, one might just as correctly define a classroom as a system;

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[1] Kershaw and McKean, op. cit. , p. 2.

[2] Alkin, CSE Report, p. 43

administrative and other school characteristics as the environment. Or ome might define as a system even more specific interests such as a particular curriculum or instructional sequence.

Suggested Exercise

Students might be asked to describe some simple mechanical system, establishing the boundaries between the system and its environment, and describing how system elements are related. They might then be asked to sketch out the same for some social system, again being careful to describe the relatedness of elements. Specific attention should be drawn to the effects of manipulating system elements. Differences between descriptions of mechanical systems and social systems should be noted.

Suggested Readings

*Andrew, Gary and Ronald E. Moir. Information-Decision Systems in Education Ithaca, Ill., F. E. Peacock Publishers, Inc., 1970.

*Carter, Launor. The Systems Approach to Education - The Mystique and the Reality. Santa Monica, System Development Corporation, Jan. 27, 1969.

LESSON FOUR: Input-Output Models in Practice

Comments to the Instructor

This lesson is designed to acquaint the student with some of the practical realities of trying to apply input-output systems concepts to actual programs in education. By and large the problem of application is not that the concepts are inappropriate, but rather that they are difficult to operationalize. It is likely that students will already have begun to voice concern about some of the issues presented here; if so the instructor may want to introduce this lesson by recalling some of those concerns.

Student Reading

The input-output model that we have been studying does offer a neat, logical way to describe what goes on in a particular program. But try to describe an education program with which you are familiar in input-output terms. Can you reduce the objectives to measurable variables? Can you even begin to identify and describe significant process variables?

These are some of the problems encountered in trying to use an input-output systems model. In the next few pages, we'll examine carefully the features of this model which limits its application to real problems in education.

*Starred readings are suggested for students.

Developing operational statements of objectives

Unless an output or objective is described in very concrete terms, there is no way to know whether or not it actually occurs. For example, it is not enough to say that kids should be able to read at the end of a program. If you really want to know the effects of the program, you need to know whether the kid staring at a written page is reading or not you must specify behaviorally what you mean by reading.

Recent concern for developing such behavioral specifications has had many educators to advocate the use of behavioral objectives. As we have seen (pp.), behavioral objectives must be stated in highly specific behavioral terms; the most extreme position regarding the degree of specificity required, insists that a well-written behavioral objective must specify what the student should be able to do, under what conditions, and to what extent.[1]

Use of behavioral objectives had been advocated by a few educators since the early 1900's,[2] but it wasn't until the 1960's that such advocacy began to have any effect on the way educators stated their objectives. The impetus for the current widespread interest in behavioral objectives came undoubtedly from the development of new instructional systems which required precise formulation of outcomes, and from federal funds. As a result, a number of states have issued state-wide instructions for evaluating programs in terms of behavioral objectives, and the State of Florida now requires all teachers and school systems to prepare behavioral objectives for their own instructional areas.[3] Furthermore, an instructional objectives exchange has been established at the Center for the Study of Evaluation at U.C.L.A. Educators are encouraged to submit objectives as well as to use those already developed by the center. The center provides a variety of collections of objectives.

On the surface this appears to be a very promising development in that for the first time, educators are beginning to do what systems analysts say the must do--that is, to describe output in concrete, measurable terms, Indeed, it probably is an important advance, but there has been some very heavy and important criticism levelled against current uses of behavioral objectives. Most significant perhaps are the

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[1] Ebenson, op. cit., p. 246.

[2] James W. Popham, Instructional Objectives Exchange: a Project of the Center for the Study of Evaluation, Los Angeles, U.C.L.A. Graduate School

[3] Director H.H. McAshan, Writing Behavioral Objectives, Gainesville, Fla., Fla. Ed. Research & Dev. Council, Col. of Ed., Revised Sept., 1969, p. 3.

the numerous charges[1] that the use of behavioral objectives tends to reinforce most easily measured behaviors, at the expense of behaviors which are less easily measured. At the extreme, this may result in a situation in which ease of measurement rather than educational value determines what outputs are produced. This position is well-stated by Myron Atkin who first describes multiple learning outcomes and the difficulty of measuring all of them; he then states:

> If identification of all worthwhile outcomes in behavioral terms comes to be commonly accepted and expected, then it is inevitable that, over time, the curriculum will tend to emphasize those elements which have been thus identified. Important outcomes which are detected only with great difficulty and which are translated only rarely into behavioral terms tend to atrophy. They disappear from the curriculum because we spend all the time allotted to us in teaching explicitly for the more readily specifiable learnings to which we have been directed.[2]

Further, it is charged that the incautions use of behavioral objectives will stifle idiosyncracy creativity, social orientation and perhaps even feeling of self-worth.[1]

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[1] See for example:

Benjamin S. Bloom, "Toward a Theory of Testing Which Includes Measurement-Evaluation-Assessment," Occasional Report No. 9, Los Angeles, U. of Calif., October, 1968

Lee J. Cronback, "Course Improvement Through Evaluation," T.C. Record, 64:672-683, May, 1963.

Henry S. Dyer, "The Discovery and Development of Educational Goals," Proceedings of the 1966 Invitational Conference on Testing Problems, Princeton, N.J., Educational Testing Service, 1966, p. 12-23.

Elliot W. Eisner, "Instructional and Expressive Educational Objectives: Their Formation and Use in Curriculum," in James W. Popham, Elliot W. Eisner, Howard J. Sullivan and Louise R. Tyler, Instructional Objectives, AERA Monograph Series in Curriculum Evaluation, Chicago, Rand McNally and Co., 1969, pp. 1-8 and 130-132

Samuel Messick, "The Criterion Problem in the Evaluation of Instruction: Assessing Possible Not Just Intended Outcomes," Center for the Study of Evaluation of Instructional Programs, Report No. 22, Los Angeles, U. of Calif., May, 1969.

[2] Myron J. Atkins, "Behavioral Objectives in Curriculum Design: A Cautionary Note," Science Teacher, 35:27-30, May, 1968.

Use of standardized tests

Often standardized tests are used as an indicator of output. Tests have some use in that they help to indicate how students and schools are doing vis-a-vis others. However, once again, they are of questionable adequacy for the measurement of educational output. Consider just some of the criticisms of standardized tests:

1) Tests do not really measure gains in skill as a result of instruction. Some charge that they are much the same as intelligence tests and as such do not provide a valid measure of the effects of schooling. Others point that many tests are weighted heavily in terms of verbal ability and therefore measure that rather than achievement.[2]

2) Tests reflect the influence of coaching by teachers who are "teaching for the test." [3]

3) Tests place the child in an anxiety-provoking situation; for the youth lacking self-confidence, the situations may detract significance from his performance.[4]

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[1] See for Example:
Henry S. Dyer, op. cit.
Elliot W. Eisner, op. cit.
Pauline S. Sears and David H. Feldman, Changes in Young Children's Classroom Behavior after a Year of Computer Assisted Instruction: An Exploratory Study, Research Memorandum.
Michael A. Wallach, "Creativity and the Expression of Possibilities," Creativity and Learning, Jerome Kagan, ed., Boston, Houghton Mifflin Co., 1967.

[2] See for example:
R.W. Skager and L.A. Broadbent, "Cognitive Structures and Educational Evaluation, Center for the Study of Evaluation of Instructional Programs, Occasional Report No. 4, Los Angeles, U. of Calif., July, 1968.
A.G. Wesman, "Intelligence Testing," American Psychologist, 23: 267-274, 1968

[3] See for example:
Miriam Wasserman, "Planting Pansies on the Roof," (A Critique of Now N.Y. City Tests Reading), The Urban Review, January, 1969.

[4] See for example:
Miriam Wasserma, op. cit.

4) Reading tests items contain content unfamiliar to the ghetto youngster so that he is faced with the task not only of reading, but of trying to make sense out of words that are alien to him.[1]

5) Tests do not measure true intellectual competence in that they neglect "depth, connectedness, and applicability of knowledge.[2]

6) Tests may reward the retentive, docile student who seeks the single "correct" answer, and penalize the more creative student who seeks novel approaches to problems.[3]

7) Tests damage and humilate the disadvantaged child particularly by projecting society's inadequacies onto him [4]

Use of behavioral objectives and standardized tests by the evaluator

What is the evaluator to make of this dilemma? On the one hand he needs to specify as precisely as possible those outputs he is looking for and he nees ways to measure them. Otherwise he won't "know" them even when he "sees" them. On the other hand, he must avoid using inaccurage, incomplete measures as they can make his analysis inaccurate and incomplete.

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[1] See for example:
Ibid.

[2] See for example:
Cronbach, op. cit.
R. Glaser and R.C. Cox, "Criteria-Reference Testing for the Measurement of Educational Outcomes," Instructional Process and Media Innovation, R. Weisgerber, ed., Chicago, Rand McNally and Co., 1968, pp. 545-550.
R.E. Stake, "Toward a Technology for the Educational Programs," Perspectives of Curriculum Evaluation, R.W. Tyler, R.M. Gagne and M. Scriven, eds., Chicago, Rand McNally and Co., 1967, pp. 1-12.

[3] See for example:
J.W. Getzels, "Non-IQ, Intellectual and Other Factors in College Admission," The Tyranny of Testing , Banesh Hoffman, ed. New York, Crowell" Collier Publishing Co., 1962, p. 101.
Banesh Hoffman, ed., The Tyranny of Testing, New York, Crowell-Collier Publishing Co., 1962.

[4] See for example:
Wasserman, op. cit.

Our solution is only partially satisfactory. We suggest that some reliance must be placed on statements of behavioral objectives and on standardized tests. The evaluator may also wish to develop some of his own tests or survey instruments. However, quantitative analysis based on these tools must be viewed as only part of a complete evaluation. Equally important are (1) comments on the relevance of the derived quantities, (2) qualitative analyses of portions of the program that can not be adequately characterized in quantative terms at the time of the evaluation.

Selecting critical process variables for analysis

The input-output model requires the evaluator to analyze how process links inputs to outputs. And yet, what is the educational process? And which variable are most important? Quality of curriculum? Teacher experience? Teacher personality? Pupil motivation? Pupil health? There is surprisingly little information on these questions.

One perplexing problem has to do with sorting out the effects of school processes from the effects of other factors. Much of the controversy over the Coleman report, for example, centers on just this issue. What effect do schools have? Techniques have not been derived to identify those effects with any degree of validity. If we look at the instructional process--the interactions of teachers and materials with students--we find that very little information exists about the nature of that process. Are small classes more effective than large classes--for whom, under what conditions, and at what cost? Is heterogeneous grouping superior to homogeneous grouping? How do discussions compare with lectures? How do live and television presentations compare? Under what conditions may non-directive instruction be more effective than teacher-centered instruction? What are the relationships between teacher personality and effectiveness--and betwen student personaility and learning?[1]

Remember also that the instructional process is only part of the educational setting. Some variables outside of the immediate school setting may have an important effect on student learning. But what these variable are and how they operate has not been determined. What is the effect of home characteristics? What is the effect of socio-cultural characteristics? What is the effect of teacher unions and supervisory associations? What is the effect of community organizations?

To isolate and begin to understand the effects of process variables, it seems to us, again, that qualitative field-oriented methodologies are needed in addition to the more quantitative methodologies. For it would seem that only by going to the field and looking at what's happening can one truly begin to understand the nature of the educational process.

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[1] Marvin Bressler and Melvin M. Tumin, Evaluation of the Effectiveness of Educational Systems Final Report, Cooperative Research Project No. 6-2023, Washington, D.C., U. S. Office of Education, Dept. of Health, Education and Welfare, B-4, p. 13.

The course which we have designed to complement this basic course on evaluation will be giving you practice in doing just this--in going to the field, looking and listening, and reporting and analysing what you have seen and heard.

Suggested Exercises

At this point the student should practice sorting a complex program description into inputs, processes and outputs. If students are involved in an ongoing evaluation, they may want to try organizing that program in terms of the input-output mode. There are several other sources for existing materials which describe programs and these may also be used for these purposes. Materials which are being prepared by Malcolm Provus, and documents for the Experimental Elementary Program available through Teachers College are suggested sources. These materials are described in greater detail in the Appendix.

Students should be encouraged to note the problems they encounter in trying to sort the program into input-output categories. Ideally they will note the following:

1) Program goals may not be immediately obvious from program documents. They may have to be "pulled" from program descriptions or from interviews with program administrators and staff. Further, various participants are likely to have different views regarding program goals.

2) Statements of program goals are often stated at mixed levels of specificity. In such cases, it is important to develop a hierarchy ranging from specific to abstract. The specific statements serve as the targets against which program performance is measured.

3) There will be some outputs which are not easily measured. Provision should be made to include qualitative statements of these outputs in the program description.

4) Besides the process variable which are mentioned in the program description there may be others which students feel may be important. They should be encouraged to list and justify those additional variables which they feel may be important.

5) Programs take place over time. If students feel that the input-output model needs to be adapted to reflect the sequential

features of a program, they should be encouraged to do so.[1]

Suggested Readings

*Atkins, Myron J. "Behavioral Objectives in Curriculum Design: A Cautionary Note." Science Teacher, 35:27-30, May, 1968.

Bloom, Benjamin S. "Toward a Theory of Testing which includes Measurement-Evaluation-Assessment." Center for the Study of Evaluation of Instructional Programs, Occasional Report No. 9, Los Angeles, University of Calif., October, 1968.

Bressler, Marvin and Melvin Tumin. Evaluation of the Effectiveness of Educational Systems, Final Report. Cooperative Research Project No. 6-2023, U.S. Office of Education, 1969.

Cronbach, U.J. "Course Improvement through Evaluation." Teachers College Record, Vol, 8, May, 1963, pp. 672-683.

*Dyer, Henry S. "The Discovery and Development of Educational Goals Proceedings of the 1966 Invitational Conference on Testing Problems. Princeton, Educational Testing Service, 1966, pp. 12-23.

*Eisner, Elliot W. "Instructional and Expressive Educational Objectives: Their Formation and Use in Curriculum." in James W. Popham and Elliot Eisner, Instructional Objectives. AERA Monograph Series in Curriculum Evaluation. Chicago, Rand McNally and Co., 1969, pp. 1-18 and 130-132.

*Lortie, Dan C. "Rational Decision-Making: Is it Possible Today?" The EPIE Forum, 1967, pp. 6-9.

*Messich, Samuel. The Criterion Problem in the Evaluation of Instruction: Assessing Possible Not Just Intended Outcomes. Center for the Study of Evaluation of Instructional Programs, Report N. 22, Los Angeles, University of Cal., May, 1969.

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[1] This is one of the problems we are working with in our town studies; Professor Frank Smith has made important contributions to our understanding of the problem. For example, we are developing an "input-conversion-process-output" model, conversion being the transformation of certain input variables into the form required for process transactions. Teacher orientation might be one such example of a conversion. We are also developing ways to account for the order in which program elements need to be assembled. This is, of course, similar to the work being done with PERT, our focus being that of evaluation.

*Starred readings are suggested for students.

*Popham, James W. Instructional Objectives Exchange; a Project of the Center for the Study of Evaluation. Los Angeles, UCLA Graduate School of Education.

Stake, R.E. "Toward a Technology for the Educational Programs," R.W. Tyler and Gagne eds. Perspectives of Curriculum Evaluation. Chicago, Rand McNally, 1967, pp. 1-12.

*Wasserman, Miriam. "Planting Pansies on the Roof." (A Critique of how N.Y. City tests reading) The Urban Review, January, 1969.

LESSON FIVE: Informing the Decision Maker; the Evaluation Role in Performing a Systems Analysis.

Comments on the Lesson

Recall that one definition of evaluation had to do with generating information for use by the decision-maker. Recently techniques of systems analysis have been promoted as particularly relevant to the decision-making function. The success of these techniques in space exploration and the military has lead many to suggest that they are similarly useful in education. This lesson introduces the student quite briefly to the steps of a systems analysis, and the evaluators, function in that analysis; then we introduce the student to the CSE model to bring out the practical consequences for the evaluator in implementing a systems analysis in education.

The lesson is structured on the assumption that students will have available the CSE training materials, published by McGraw Hill. Those materials are designed for intensive use over two days. The instructor may of course restructure the timing of his own presentation (see pp.   above). We suggest further that large blocks of time be devoted to discussing those issues and problems which we suggest in our own student readings.

Student Reading

Recall that in the first lesson it was pointed out that some evaluators view their function as that of providing information to the decision-maker. That decision-maker is concerned with planning, implementing and evaluating programs, and as such he needs certain kinds of information at each step in this sequence. It is often proposed that one model of the task of the decision-maker in planning, implementing and evaluating a program is the model of systems analysis. Let's look for a moment at that model and consider its implications for the evaluator.

Systems analysis is really little more than a formalized model of a common sense approach to problem solving. One commentator on the subject has for example, described systems analysis as ". . . a logical step-by-step approach to problem solving which we use continually even though we perform many of the steps unconsciously."[1] Systems analysis is sometimes described as a set of steps involved in the design of a solution to meet an expressed need. A subgroup of the National Security Industrial Association, considering the application of military and space technology to educational problems, summarized these steps as follows:

1. State the NEED--that problem which initiates consideration of an education/training system as a potential solution.

2. Define the OBJECTIVES--the terminal capability desired of students after having successfully completed a learning experience--which will contribute to satisfying the need.

3. Define the CONSTRAINTS, or real-world limiting conditions which must be satisfied by any acceptable system designed to attain the educational objectives.

4. Generage ALTERNATIVES, or candidate systems which could achieve the objectives.

5. SELECT the best alternative by systematic evaluation of alternatives in terms of objectives and constraints.

6. IMPLEMENT, or adopt the selected alternative to meet the specified objective.

7. EVALUATE the implemented objectives by determing the conformance or discrepancy between all of the objectives initially specified and the performance that was actually obtained.

8. MODIFY the designed learning system based on deficiencies in meeting the objectives as determined through evaluation.[2]

These procedures lie at the heart of all the many systems analytic, managerial and decision making techniques. Notice that evaluation is part of this process and that the evaluative function, step 7, is dependent on the implementation of the preceding 6 steps; evaluation in the systems analytic sense requires a prior determination of objectives based on needs assessment, and on rationalizing and implementing a particular program intended to meet those objectives. For this reason, evaluators are encouraged to view their function as being related to this entire sequence of procedures used in systems analysis or decision-making. The evaluator's function in this sequence is integral to the specification of program goals and their requisite programs. While the administrator may, and usually does, reserve the right to make actual decisions regarding goal and program selection, the evaluator too performs an important function in this regard; for his is the skill required in stating goals and describing programs and alternatives in terms which are subject to evaluation.

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[1] Henry Lehmann, "The Systems Approach to Education," Audiovisual Instruction, Feb., 1966, pp. 144-148.

[2] Lehman, op. cit., p. 145-148.
Launor F. Carter, The Systems Approach to Education--the Mystique and the Reality, Santa Monica, Calif., System Development Corporation, Jan. 27, 1969, pp. 2-3.

Regardless of how neat and logical all of this seems, bear one point in mind as you procede through this lesson. The systems analytic model is an ideal model. It describes how decisions should be made under ideal circumstances--circumstances in which the decision-maker is disposed to decide rationally, and in which key variables can be identified and measured. You are already aware of some of the problems in identifying and measuring key variables in education. No doubt you are also aware that decision-makers may not plan rationally for programs, and may ask for an evaluation after the programs are fait accompli. Evaluation can still be conducted but it will not encompass all the stages of the ideal model.

The CSE Model

The Center for the Study of Evaluation at U.C.L.A. has developed an evaluation model, based on the systems approach, which specifies the kinds of evaluative information and assistance that are required by the decision-maker in the sequential stages of planning implementation and evaluation--roughly the same stages as those involved in a systems analysis. The Center defines evaluation as follows:

> Evaluation is the process of ascertaining the decisions to be made, selecting related information, and collecting and analysing that information in order to report summary data useful to decision-makers in selecting among alternatives.[1]

To provide information relevant to the various stages of decision-making the Center has developed the following five phases of evaluation activities:

1) Needs assessment

2) Program planning

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[1] Alkin, CSE Report, op cit.

3) Implementation evaluation

4) Progress evaluation

5) Outcomes evaluation

The exercise at the end of this lesson will take you through each of these phases in some depth. In the next pages we'll discuss each phase briefly from systems perspective. This material should serve to supplement the exercise which follows.

Needs assessment; setting program goals and objectives

From a systems perspective, activities are undertaken with a view toward accomplishing certain ends. Economics, as well as common sense, mandate that not all ends can be met, given limited time and resources. For this reason, it is important to decide which ends have highest priority, and to establish programs to meet those ends. This is the first step of a good systems analysis; it is also the first step in the CSE model. Essentially what is involved is operationalizing statements of goals and assigning priorities to those various objectives.

The evaluator is likely to encounter two major problems in conducting a needs assessment. The first has to do with developing ways to operationalize goals--with developing statements of objectives which are inclusive and which can be observed or measured. You have already encountered this problem in Lesson Two.

A second problem has to do with how you go about deciding which objectives are most important. Whose values do you use? Those of the administrator? teachers? community members? If you use some combination of individuals, how do you weight their preferences? In the CSE exercise on Needs Assessment you are provided with weighting procedures. As you use the procedures, recall a situation with which you are already familiar and try to determine whether the same kind of weighting procedures would be appropriate in that situation.

Program Planning

Ideally, before a program is undertaken--particularly a new, innovative program--the administrator engages in some sort of planning. He decides what ends he would like to attain, and tries to determine the best means for attaining those ends. The literature contains many definitions for the term "planning" although they commonly imply the type of means-ends conceptualization embodied in the input-output model discussed in Lesson Two. Consider for example the following devinition of planning:

> Planning is the process of preparing a set of decisions for action in the future, directed at achieving goals

by optimal means.[1]

This definition, similar to many calls attention to the following important characteristics of planning:

1) Planning is goal-oriented. That is to say, planning is undertaken with a view to achieving one or several ends. These ends or goals are the raison d'etre of any plan; they are integral to the planning process.

2) Planning focuses on available means, or ways of combining resources. As we have seen, there are often several means by which ends may be reached. Planning assesses these means and specifies which among all, are to be implemented in order to achieve ends.

3) Planning is concerned with deciding which means is "best." Given a variety of means by which ends may be achieved, the planner must select which means are "best." An important criterion in assessing what is best is that of optimality or efficiency; operationally this means that often the planner is concerned with finding the least-cost means by which the stated ends may be achieved. (Of course, given the present lack of knowledge in education about the relation between means and ends, the planner's task more often than not, may merely be finding a program--any program (!)--that might possibly produce the desired results.)

One of the functions of the evaluator in the planning phase is therefore to gather the kinds of information that may help the administrator determine which courses of action, among several, he should pursue. Research literature, expert-practitioners and consultants are sources of such information. The evaluator may assist the administrator in tapping into these sources.

Another function of the evaluator at this stage is to design an evaluation for the selected program. The input-output model offers one convenient way of laying out a plan so that it may then be evaluated. The plan can then be used to specify what data should be collected and how. We can think of that plan as a blueprint with boxes labelled input, process and output. He can then compare what was intended with what actually happened. Thus imagine yourself carrying blueprint I from this planning phase along with you into the next two phases of evaluation.

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[1] Yehezkel Dror, "The Planning Process: A Facet Design," Planning Programming Budgeting, Fremont J. Lyden and Ernest G. Miller, eds., Chicago, Markham Publ Co., 1967, p. 99.

Implementation Evaluation

Suppose blueprint I specifies that output is reading scores, that process is a reading program, and that inputs are teachers, students and reading books. Suppose now that books don't arrive and that no reading is taught. It would be misleading to look only at output (reading scores) and declare the reading program a failure. For in fact the reading program never took place.

The purpose of implementation evaluation is to avoid just such faulty reasoning. Since logically a program can't be evaluated until it is installed, implementation evaluation seeks to determine whether or not (or to what extent) it has been installed. It attempts to determine if the inputs (staff, students, materials, facilities) specified in blueprint I are actually occurring. (It may also identify what things are happening that were not intended.)

Progress Evaluation

Once a program has been installed the major concern becomes the extent to which it is making progress toward its objectives. Remember that according to the rational systems analytic model, the objectives constitute the basis for undertaking the program. If this information can be provided at appropriate intervals throughout the year it may enable the decision-maker to modify the program when objectives are not being met. This type of periodic feedback on program performance is called "formative evaluation" and is now the commonly accepted mode for progress evaluation.

Outcome Evaluation

At the end of a program the decision-maker must make some judgment concerning the worth of the program. The evaluator's task at this point is to provide information about program output which can help the decision-maker reach that determination. While quantitative data--including qualitative descriptions and perceptions--can't also be used in this assessment of worth.

Student Exercises

Students are now ready to use the evaluation simulation of CSE. That simulation is available through McGraw Hill. That simulation is presently designed for a two-day intensive seminar to introduce school personnel to concepts of evaluation. For purposes of this course, however, we suggest that the lessons can be spread out over a longer period, that students take time to review some of our suggested readings, and that ample time be devoted to discussion of the issues suggested in the above Student Reading.

Suggested Readings

*Klein, Stephen. "The Center's Changing Evaluation Model." UCLA Evaluation Comment, Los Angeles, Center for the Study of Evaluation, Vol. 2, No. 4, Jan., 1971.

*Lehman, Henry. "The Systems Approach to Education." Audiovisual Instruction, Feb., 1966, pp. 144-148.

LESSON SIX:

Comments to the Instructor

This lesson represents a significant departure from the kinds of issues which emerge as important in most of the literature on evaluation. The reading for this lesson draws attention to basic issues of values and institutional functioning. The lesson is not intended to advocate a particular position but rather to bring some controversial issues to the attention of the student. We recommend that students read all of the suggested readings and that adequate time be set aside for discussion of the issues.

Student Reading

It is by now a commonplace among historians of education, as well as among social and educational critics, that the educational system in this country rather faithfully reflects the established structures of political and economic power. Education, that is, tends to be a follower of American society rather than a leader. Some are now suggesting that the same holds true for most educational research. What are the aspects it reflects?

During the sixties a breed of scholar-consultants emerged among policy-making circles in this country. Regarding themselves as professional reformers,[1] they saw their mission as one of upgrading the existing bureaucratic system, to make it both more equitable and more efficient. Above all they claimed to be nonideological; that is to say, their role implied technician, one who identified and solves problems within a given instituional framework, while the institutions themselves and the values underlying them are assumed and not questioned. The involved yet "non-ideological" stance of these scholars came to influence and eventually to dominate much of the research that was carried out during the decade. Coincidentally, it was in the mid-sixties, more precisely with the passing of the ESEA in 1965, that educational evaluation suddenly came into its own as a field highly in demand. It is not surprising, then, that so much of the literature since then seems almost exclusively preoccupied with working out narrow technical problems - how to improve testing, how to state behavioral objectives more clearly, how to promote program development, how to assess net cost-effectiveness, etc, etc. - all to the conspicuous neglect of the more fundamental questions, such as What does school do for children anyway? Do we need altogether different arrangements for allowing education?

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[1] Daniel P. Moynihan, "The Professionalization of Reform," The Public Interest, No. 1, Fall, 1965.

The most recent development in evaluation to catch on has been the systems approach to evaluation, which examines inputs, outputs, and the mediating process. It should be noted, however, that all of these approaches characteristically confine their attention to description or judgment within the parameters of the existing educational system, and in its terms. In other words, by implicityly accepting the conventional educational framework, evaluators measure progress, success or failure against norms which remain immune to question.

To coincidence between the trend to the scholarly professional reformer and the sudden emergence of the educational evaluator as a creature in great demand is of great significance for our interests. Of special importance is the fact that the 1965 legislation brough evaluation out of its preferred insulated environment and gave it a direct link to public policy-making at the national level, and subsequently, through locally planned and aministered programs, at the state and local levels. What is more, the legislative intent of many of the resulting programs, though couched in educational rhetoric, was social and political change. The educational specialists who were called upon to evaluate these programs were thus on very unfamiliar ground. It is no wonder, then, that their response took the two forms it did: some of them reverted to what they'd been doing all along, i.e. honing their skilss in tests and measurements; the "new breed" took a page from the book of scholar-consultants, putting themselves in service to administrators and decision-makers, and redefining evaluation into the bargain.

Meanwhile, by the end of the decade there began to develop a serious challenge to the concept of the professional reformer. This came about as the result of a growing disillusionment with the ability of educational institutions to deliver democratically the services for which they were intended. A larger part of the problem, it was determined, stemmed from the fact that the professionals who staffed and administered these bureaucratic structures had become an interest group in their own right, and their natural tendency was to magnify the presumed difference in competence between themselves and the lay public in order to consolidate and perpetuate their own position of power. As a consequence, public services were marked by a lack of democratic control and accountability to consumers which in turn produced widespread alienation between professionals and clients. In response to this crisis, a new kind of reformer arose to champion the rights and interests of the public against the hegemony of the professional and technocratic elite. What was new about their approach was that it undertook a critique of the structure and values of the bureaucratic institutions themselves. No longer, they said, must the reformer be content to tinker around within the system; it is the system itself which needs changing.

Obviously, one of the prime public institutions to figure in this controversy has been the education system. Indeed, schools in areas where the breakdown in services has been especially acute - the urban ghettoes - have been major crucibles for the efforts of the new reformers. The pot is kept simmering by the related factors of increased political consciousness and expectations among the powerless minorities and various federal legislation mandating "maximum feasible participation" of the poor. In the midst of all this upheaval stands the educational evaluator, who lags jsut behind current developments. As described above, he has so far defined his contemporary role narrowly and/or conservatively.

Some suggest therefore that the evaluator must now take responsibility for finding ways to integrate developments in social and political spheres into his analyses - that he must extend his vision beyond the narrow effect (output) of treatment (process) on students (input) to include questions of basic institutional functioning and values.

Still a departure from traditional approaches to evaluation, this viewpoint is beginning to emerge with some degree of regularity. As you become involved in evaluation, you need to be aware of where you stand in this issue. The suggested reading which follow may help to clarify some of these issues for you. Perhaps most important though will be the insights you develop over the next years of your practical experience in evaluation.

Suggested Readings

*Berlak, Harold. "Values, Goals, Public Policy and Educational Evaluation," Review of Educational Research, Vol. 40, No. 2 April, 1970, pp. 261-279.

*Cohen, David K. "Politics and Research: Evaluation of Social Action Programs in Education." Review of Educational Research, Vol. 40, No. 2, April, 1970, pp. 213-238.

*Elboim-Dror, Rachel. "Some Characteristics of the Education Policy Formation System," Policy Sciences, 1970.

*Glass, Gene V. "The Growth of Evaluation Methodology," The Evaluation Workshop of the Adult Education Research Conference, Minneapolis, Minnesota, March, 1970.

*Myers, Albert E. "The Impact of Evaluative Research on Educational Programs for the Poor." Teachers College Record, Vol. 71, No. 3, February, 1970, pp. 371-378.

*Scriven, Michael. "The Methodology of Evaluation." Tyler, Ralph, et. al. eds., Perspectives of Curriculum Evaluation. Chicago, Rand Mcnally and Co., 1967.

*Stake, Robert E. "Objectives, Priorities, and other Judgment Data." Review of Educational Research, Vol. 40, No. 2, April, 1970, pp. 181-212.

*Starred readings are suggested for students.

Appendix F

Teachers College Course Two:
Qualitative Data -- its Collection and Analysis:
An Approach to Problem Solving
Detailed Design

Section I: Field Experiences

Rationale: In this section a major course-long exercise is suggested, as well as nine other shorter exercises. The shorter exercises should be carried out sequentially and can be conducted at the same time that the student conducts the major exercise. The rationale for including both a field study and individual exercises related to a growing trend or style in the sophistication of the field observer as a researcher.

The growth of students over time related to field work and/or laboratory experiences has been discussed by John Bennett.1/ His extremely useful series of training exercises and presentation of results obtained with students over time give us a similar target at which to aim although our process is getting there is somewhat different. In his terms, he finds a generalized cultural anthropologist approach emerging overtime on the part of his students. A growing awareness on the part of the student of the relationships between percept and concept, he feels, is a sign of increased methodological sophistication.2/

For Example, the good field worker must work with and through his "biases," become aware of them, control them and use them."3/

Specifically, students utilizing his experiences begin to evidence a general intellectual sophistication as manifested by: (a) a balanced interest in wholes, parts, details; (b) awareness of the importance of empirical description as well as interpretation; (c) indications of an understanding of theory as a body of interpretative principles that mightbe brought to bear on the data when and if these data are sufficiently abundant or suitable for such application of theory.4/

1/John W. Bennett, "Individual Perspective in Field Work: An Experimental Training Course. "Human Organization Research: Field Relations and Techniques, Ed. by Richard Adams and Jack Priess, Homewood, Illinois, The Dorsey Press, 1960. pp. 431-440.

2/IBID., p. 438.

3/Ibid., p. 432.

4/Ibid. p. 438.

The reading of Mr. Bennett's training procedures to achieve these ends is highly recommended. These objectives are fundamental to completing a qualitatively oriented field study and we should hope that some of the exercises which follow may approximate his success. However, once this core of skills has been acquired a bridge must be established that relates this increased sophistication on the part of the student to the actual process of learning to develop new theory, hypotheses or ideas, to establish provisional hypotheses or categories and to evaluate the adequacy of these ideas in terms of the relation to the descriptive systems obtained. It is this end objective which in the writer's view justifies includion of a field study as an integral, if optional, portion of the course as represented in the basic exercises to follow.

EXERCISE ONE: Major Exercise

Objectives: This exercise, ongoing throughout the entire course, provides the vehicle for integrating the use of skills and conepts taught through other course materials. This exercise carries the student through the cycle of design, data collection, data analysis and reporting in a practical setting. Continuity in the study of a single social organization or educational program, for example, and systematic attention to the necessity of integrating the components of the study underscores the issues that are brought forth in the other materials, and moves the student more directly into future professional application of field work in the evaluative process.

Task Description:

Students electing to undertake a field study simultaneously with the pursuit of their course work might be presented with a menu of suggestions for settings or problem-areas that might be applicable to their interests. This might include, for example, an "innovative" educational program being implemented by a school; a community-mental health center; a graduate school; a department in a graduate school; an organization responsible for training "paraprofessionals"; a drug education program; a prison setting, etc.

Initial strategy meetings regarding study design would be held with the instructor, or a responsible course assistant. A reading list for the entire course should be distributed at that time. The student and instructor might discuss which readings might be immediately applicable to the student's entrance into the organization in an observer capacity. Field relations, client relations, initial participant-observer stance, and a generalized notion of what he is looking for might, for example, be suggested. Over the course of the year the student would be required to keep weekly logs of field activities which would be submitted to the instructor for review or individual discussions. The contents of this log would indicate such areas as student progress in obtaining descriptive information and the selection of his informants, student progress in terms of categorization, use of theoretical sampling, analysis and the generation of working hypotheses. The responsibility of the instructor would be to insure that the student did not tarry too long with description alone but moved rather quickly into a framework of continual analysis of the data being generated.

Supervision would be maintained throughout the year. Although the exercises and readings presented below would in some cases parallel and facilitate the process of moving through a field study, the instructor must schedule individual time to aid the student in planning next steps and monitoring conceptual difficulties that may arise.

A final report would be due near the end of the course. Its format should parallel in many respects an anticipated professional reporting style. That is, the student should include an description of his design, data collection, procedures, the results of his analysis, speculations for future study, and samples of interview schedules or other data gathering instruments. Additionally, the student should include as an appendix to the report a discussion of the contributions of the experience of conducting such a study to his personal and professional growth and an indication of potential applications to his career or major area of interest. Critical comments would, of course, be encouraged as well.

EXERCISE TWO

Objective: The student recognizes that individual differences are a significant element in observation and develops increased familiarity with his unique patterns of orienting toward the world.

Task Description:

Students, organized into teams of three, or four, are asked to take notes describing the same five-ten minute segments of behavior of a single individual or a series of single individuals. For example, the instructor may send students to a busy bus station or other transportation centers, there to select persons who will be observed. Other possible settings include toy stores, supermarkets, doctors' offices, night-court, a subway car, etc. Notes taken on the scene are written up at home and subsequently distributed in class.

The class and the instructor analyze similarities and differences between various individuals in the groups and between class members from various groups. The relevant differences in the descriptions are identified and the possible sources of observer differences in reporting on the observation would be greater than if the students had been told what to look at and instructed as to the concretenss of descriptive materials to be obtained. Individual idiosyncracies noted by John Bennett[1] as likely to be revealed by this exercise are highly use of adjectives, and the use of ready-made frames of reference such as stereotypes. Other differences might be noted relating to the drawing or failing to draw inferences as to the intent of the actor's behavior, the quantity of verbal and non-verbal behavior reported, the extent of verbatim match of reported verbal behavior, the extent of attention to the sequence of actions, or the extent to which the actor's surroundings or his relationship to other actors is reported.

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[1] Ibid., pp. 431-440.

EXERCISE THREE

Objective: The student increases his awareness of the selectiveness of individual observer style as the complexity of the observational task increases.

Task Description

As in exercise two, small teams of three or four individuals are given the assignment of selecting and observing the same segments of behavior. In this case the targets for observation are groups of individuals in spatially bounded environments. Sites for observation might include a party, a political or community meeting, a fifteen minute segment of a television program, a fountain gathering spot in a park, etc. As in the previous exercise, notes taken on the spot are written up and distributed to the class.

The instructor's task is essentially to monitor the student's self-evaluation. It is anticiapted that the students' varying patterns of organizing their environments will be brought into sharper focus as a consequence of the increased complexity of the task--i.e. the observation of a group as opposed to a single individual--and that the notes of individuals within a team will be more widely discrepant than they were in exercixe two. John Bennett[1] again gives us some leads as to the nature of individual patterns which may emerge, particularly as students move toward a descriptive synthesis of their notes. His observations are as follows:

a) 'The empirical ethnographer'pattern: concentration upon detailed description, recorded systematically and sequentially. Interpretation, hypotheses, etc., avoided. Gestalts rare.

b) 'The holistic ethnographer' pattern: Concentration upon the making of Gestalts of various kinds, especially emotional-aesthetic wholes; emphasis on color and 'feel' of situations. Descriptions show beginnings of interpretative construction.

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[1] Bennett, op. cit., p 436.

c) 'The social anthropologist' pattern: Dominant interest in structure and system which results in rapid summarization of detail and its conversion into empirical descriptions about patterns. Contextual emphasis on interpersonal relations.[1]

Other considerations that might arise in the analytical discussions might relate to the manner in which pre-existing theories influence the nature of the observations made, to the difficulties of describing a complex social situation for purposes of replication, and to problems arising from the lack of any general notion on the part of the observer as to what to focus upon at the time of entering the setting. The analyses should also include an exploration of what dimensions of observation have been left out and why.

EXERCISE FOUR

Objective: The student recognizes that using himself as an instrument for making observations, as opposed to utilizing technological tools, can facilitate as well as distort the process of describing and of moving toward subsequent understanding. Attention is drawn to his use of sensory mechanisms in processing stimuli from modalities other than the visual and auditory. Data gathering tools are introduced that promise greater replicability of the recorded aspects of verbal and non-verbal behavior, including gestures, small and gross movements and facial expressions. However, the student comes to recognize that the problem of categorization and of drawing inferences from the data is not completely solved by technology. Replicable data are not necessarily objective data.

Task Description:

Students are asked to review the readings on specimen records in The Midwest and its Children.[1] They then select a classroom teacher who will consent to be observed and to have her verbal behavior simultaneously tape recorded. The student then takes a speciment record of about forty-five minutes during which time he also tape records the teacher's verbal performance. It would be useful for him to record time markers in his running account at no more than five minutes intervals to allow for subsequent coordination of the two descriptions.

Following the observation, the student types his specimen record into final form and gives a copy to the instructor for distribu-

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[1] Roger G. Barker and Herbert F. Wright, Midwest and Its Children: The Psychological Ecology of an American Town, Evanston, Illinois: Row, Peterson and Co., 1954, pp. 195-224.

tion to the entire class. At this point it may be feasible to do a critical analysis of the protocols in a class discussion, attending as a group to value judgments which may be noticeable in the data and thus calling the attention of the student-observer to biases which he has not yet systematically identified. Following this session, the student would then listen to the entire tape recording of his teacher-observation session. This could be done in five minute segments, attending to the tape while reviewing the specimen record for the same period. Notes would be taken speaking to the issue of the extent and quality of information available through one recording medium as opposed to another. The student should especially attend to and identify the non-verbal, verbal and contextual cues which he used in obtaining his specimen record. Basically the observer should begin to orient to the number of sensory stimuli to which he attends, and to the inter-relationships between the modalities of sight, sound, smell, and kinesthesia which are operating to create a total impression. The instructor also might suggest to the individual analysts before they have begun their analysis that they attempt to pinpoint descriptive statements that refer to the intent of the actor (teacher) and examine the validity of these judgments in terms of the total context of the observation. Attention would thus be drawn to the time sampling implications involving long sequential records as opposed to time-sampling or situational-sampling procedures, especially as these relate to perceived intent.

(An optional exercise that would draw out the issue of the actor's intent even more clearly would be to write another brief specimen record on a teacher and interview her with respect to critical incidents in the record, asking her what goals she had been pursuing with these actions. Comparisons would then be made between the teacher's and the observer's perceptions of the situation, alerting the observer to potential premature interpretations of intent in the observer's record.)

Should the instructor wish to utilize videotape in order to illustrate the advantages and limitations of this medium, he may do so here. Students will recognize the usefulness of data which can be returned to again and again for rechecking the validity of categories. But they will also see that even this apparently more complete and objective type of data can be biased and/or imcomplete. Spatial cues may be distorted, contextual cues may fall outside the camera range, aural cues may be masked, etc. Moreover, the available material is still not useful until it is condensed and summarized--introducing problems of analysis not dissimilar to those involved in making a specimen record. Viedotape may be especially useful in training observers to be sensitive to non-verbal cues--categorization exercises may be begun with the videotape sound turned off. (See Exercise Ten)

EXERCISE FIVE

Objective: The student gains critical understanding of his personal style of interviewing.

Task Description:

In conjunction with his major field study, each student tape records at least one and preferably more of his interviews. Together he and another student, or the instructor, analyze the protocols in terms of the four major components suggested by Dohrenwand and Richardson.[1] These are as follows:

1. Control of the topics of the interview;
2. Restriction of the length of the informant's responses;
3. Restriction of the content of the informant's responses;
4. Suggestion of the content of the informant's responses.

Sugsequent practice in tape recording and analysis would be optional for each student, but a critique of subsequent progress could be submitted as a portion of his year's project.

EXERCISE SIX

Objective: The student learns to structure inteview schedules in the light of critical hypotheses being developed through his field study.

Task Description:

Each student is asked to keep--as part of the weekly log of his field study experiences referred to in the major exercise--a record of the types of interview questions he has been posing to his informants. At a critical point in each individual's year-long field study, he, or he and the instructor together decide that it is time to draw up an interview schedule in order to insure the student's systematic gathering of the information most crucial to his study and to the report of his findings. One or a series of these structured interviews may be drawn up by the student and submitted to the instructor for review and constructive criticism. The interview schedule(s) then become appended to the student's evaluation study along with his critical comments as to the usefulness of the instrument(s) in sharpening his conceptual focus and clarifying what it is he is looking for.

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[1] Barbara S. Dohrenwend and Stephen A. Richardson, "Analysis of the Interviewer's Behavior," Human Organization, Vol. 15, No. 2, pp. 29-32.

EXERCISE SEVEN

Objective: The student becomes aware of the effects of roles he plays along the participant-observer dimension with respect to qualitative differences in the data he is able to collect. He receives practical experience in the sometimes conflicting demands of personal involvement and measured detachment in data collection.

Task Description:

Each student is to select two of the following three role positions from which to conduct two two-week studies. He may choose the role of a detached observer, the role of a participant who chooses to join an organization for the ovservational purposes of his study, as in "When Prophecy Fails"[1] or the role of an involved participant. Preliminary readings and/or orientation to implications of these various roles should be planned prior to the initiation of the studies. A discussion of field relations and problems of gaining access to the population studied should be scheduled. An example of a study utilizing the participant extreme in terms of level of involvement might revolve around current role functions for the individual--his job and work environment, his functions in community settings, his relationships to his neighbors in the social structure of his apartment building, existing organizational relationships, etc. The parallel study to be conducted simultaneously might well be selected to coincide with the area he selected for functioning as a participant. If for example the individual is functioning as a teacher he might want to do his observations in other classrooms in geographically different schools. The instructor should schedule time with students individually to help them define two-week areas of study.

A brief report would be expected at the end of three weeks which would define the general nature of the design, data collection techniques, nature of data collected, preliminary findings for the two studies, and a detailed elaboration of the advantages and limitations of contrasting role stances as they effect the quality of the data collected and the ability to remove oneself sufficiently from identification with participants to generate new hypotheses or higher order generalizations. The student might direct some attention to describing the changes in his role over time and the effects of this on the collection of particular information. Individual preferences for one of the extreme roles as opposed to another might become items for discussion with respect to the particular nature of data needed for studies in different stages of development. Particular emphasis might be placed on finding ways to flexibly shift role stances depending on study need.

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[1] Henry W. Riecken, "The Unidentified Interviewer," Issues in Participant Observation, Ed. by McCall and Simmons, Reading, Mass., Addison Wesley, 1969, pp. 39-44.

EXERCISE EIGHT

Objective: Student learns that categories must be well-defined before replication of results can be achieved.

Task Description:

The instructor assigns to groups of three or more observers several generally defined topics for observation. If videotapes of films utilizing other than classroom seetings are availab,e use these, since the more unfamiliar the material the better.

This time observation is not blind. Rather, the instructor assigns a series of loosely defined categories as a structure for observation. Students may, for example, be told to look for communication patterns, interaction patterns, decision-making patterns, etc. Students then write up their notes around the assigned topics; they are duplicated and shared with the class. As in the previous exercises, the instructor then monitors and guides the students' critical analyses of similarties and differences in the protocols, and their speculations as to why these occur. Particular emphasis should be drawn to the need to utilize categories for observation which have meanings held in common by the observation team; the greater the level of inference demanded from the observer, the less potentially replicable are his findings.

EXERCISE NINE

Objective: Students begin to recognize the advantages of theoretically-based categories as they move from the descriptive level through the synthesis of what they have observed, to the detection of meaningful patterns. While instrumentation may in some instances aid this process, in the case of categories not theoretically based it may actually impede analysis.

Task Description:

A videotape of classroom interaction is shown to the students without accompanying sound in order to draw their attention to non-verbal dimensions to be observed. Students are then shown the videotape a second time with the sound turned on and asked to take notes which will enable them to describe what they have seen. The descriptions are then read aloud and the participants mutually point out various dimensions to which other students were attending or not attending as the case may be. The group attempts to generate ideas regarding the theoretical relevance of what they have seen as opposed to merely identifying minute details which suggest nothing more than a "so what?" response. Once again the instructor emphasizes the need for an interplay between data and theory and encourages the class to find ways to order their observations into patterns or generalized statements about what has occurred.

Two or three observation instruments are then distributed for student review at home during the week. Examples might be the Flanders

System of Interaction Analysis. Bruce Joyce's[1] recently revised version of the instrument at Teachers College by Felice Gordis entitled "Settings for Instruction: Classroom Structure." During the next class session the students try out these instruments on the same section of videotape shown on the previous week. It is to be assumed that the discussion following the tape would bring out the advantages of utilizing predetermined categories in systematizing data, while simultaneously demonstrating that such categories may make greater demands for abstract (and therefore more idiosyncratic) judgments on the part of the observer. It should become evident that on the one hand categories must be well-defined if they are to be replicable, and that on the othern hand if the theory is not sufficiently comprehensive, important dimensions of perceivable descriptive data will of necessity be excluded from categorization. The exercise should raise questions about the merit of various instruments in generating useful theoretical statements about observed events.

EXERCISE TEN

Objectives: The student becomes aware of the usefulness of speculating in advance about the general nature of what he looking for--i.e. a tentative hypothesis. Simultaneously he retains enough flexibility to modify his original ideas on the basis of his analysis of empirical data, and using that data he develops new categories or ways of observing that need to be explored.

Task Description:

Each student is asked to think about children he has observed in school and generate some tentative hypotheses as to what aspects of their current behavior may have been affected by their watching of TV. Specifically, what is TV teaching children, or not teaching children? Based on this speculative framework, the student should generate notions as to what he expects to see on the segment of TV aimed specifically at children. Preliminary categoreis are formulated. The student then observes one four-hour Saturday morning segment of childrens television, and makes preliminary descriptive categorizations of the data.

The student then compares his obtained data with his pre-existing ideas and categories. His next step is to suggest in a brief paper for his instructor the hypotheses which he has developed as a result of systematic observation and categorization and to propose ways in which to further insights might be developed by further observation of children. Papers could be distributed to the class in order to illustrate the wide range of theoretical stances which different observers might take in approaching similar data. Emphasis on a single-factor analysis shoul be avoided in favor of a consideration of patterns.

Section II - Issues Outline

Rationale: Following is one possible functional organization of the course. It has been designed to coincide with readings indicated in Section III - Bibliography.

Part I. Background Materials Regarding Field Studies and Participant Observation

- A. History and definition of field study approaches
- B. Functions of qualitative analysis
- C. Limitations and advantages of participant observation studies

Part II. Background Materials Regarding the Philosophy of Science

- A. Introduction to issues pertinent to the collection and analysis of qualitative data
- B. Explication of the position that no science is value-free. Need for the recognition and explication of personal bias in the search toward objectivity
- C. Replication of research as an objective to be pursued

Part III. Learning How to Observe

- A. The observer's role - general comments
    1. Participant-as-observer vs. observer-as-participant. Stances and implications for nature of data collected
    2. The balance between personal involvement and objective detachment
    3. The establishment and maintenance of role relationships in the field
    4. Role shifts over time and implications for the nature of data collected
- B. Strategies for Interviewing - Some Approaches
- C. Some Techniques and Tools for Recording Qualitative Data
- D. Observation Strategies
    1. An overview of current approaches
    2. Deciding when and where observations will take place
    3. Deciding what units will be observed
        - a. Units of analysis
        - b. Selectivity of observation through the role of history and the interplay of theory and data

Part IV. Learning to Describe

A. Definition of categories

B. Categories as representations of means of structuring reality. Relationship to language and thought

C. Possible sources for categorization

D. Means of generating new categories. Constant comparative method of analysis. Theoretical sampling. Insight stimulating cases

Part V. Instrumentation

Samples of refinement of categories through development of instrumentation. Examples of theory-based observation instruments and "theory-generating" instruments

Part VI. Obtaining Higher-order Generalizations from Qualitative Data

Part VII. Analysis of Qualitative Data

A. Deductive and inductive approaches - general comments

B. Generation of hypotheses; generation of theory

C. Two techniques of qualitative analysis

D. Maintaining quality of data: validity

E. Evaluation of hypotheses and credibilityoof theory

F. Cross references to case studies. Additonal case studies

Part VIII. Final Reporting

A. Issues relating to ethics and politics

B. Reporting format

Part IX. Related Methodological Approaches to Qualitative Data Collection and Analysis

A. Survey techniques and qualitative analysis

B. Quasi-Experimental research designs

C. Ecological and "classical" issues in research

D. Observation and psychological tests

E. Example of an analysis of complex organizations

Section III - Bibliography

The bibliography has been organized to parallel or coincide with Section II. Thelatter is intended to illustrate in a logical sequence a few of the fundamental issues we would touch upon if teaching the course. Readings considered particularly useful have been starred.

Part I: Background materials regarding field studies and participant-observation.

A. History and definition of field study approaches.

Becker, Howard S., Blanche Geer, Everett C. Hughes, Anselm Strauss. Boys in White. Chicago, University of Chicago Press, 1961. Chapter 2.

Katz, Daniel. "Field Studies." Research Methods in the Behavioral Science. Ed. by L. Festinger and D. Katz. New York, The Dryden Press, 1953. pp. 56-97.

**McCall, George J. and J. L. Simmons, eds. Issues in Participant Observation. A Text and Reader. Reading, Mass., Addison Wesley Publishing Company, 1969.

*Powdermaker, Hortense. "Fieldwork." International Encyclopedia of the Social Sciences. New York, The Macmillian Co., 1968, Vol. 5, pp. 418-424.

Strauss, Anselm, et. al. "The Process of Field Work." Issues in Participant Observation. Ed. by G. J. McCall and J.L. Simmons. Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 24-27.

Strauss, Anselm, et. al. Psychiatric Ideologies and Institutions. New York, The Free Press, 1964. pp. 18-37.

*Whyte, William F. "Observational Field-Work Methods." Research Methods in Social Relations. Ed. by M. Jahoda, et. al. New York, The Dryden Press, 1951. pp. 495-513.

Valentine, Charles. "Appendix: Toward an Ethnographic Research Design." Culture and Poverty. Chicago, University of Chicago Press, 1968.

B. Functions of qualitative analysis.

*Barton, Allen H. and Paul F. Lazarsfeld. "Some Functions of Qualitative Analysis in Social Research." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 163-195.

Strauss, Anselm L. "Fieldwork, Theoretical Sampling and Educational Research." San Francisco, University of California (unpublished)

**Major source for this bibliography. Suggest it be read in entirety and tehn re-read specifically.

C. Issues and debates concerning limitations and advantages of participant-observation studies.

*Becker, Howard S. and Blanche Geer. "Participant Observation and Interviewing: A Comparison." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 322-331.

Becker, Howard S. and Blanche Geer. "Rejoinder." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 338-341. (refers to Trow article)

Bierstadt, Robert. "A Critique of Empiricism in Sociology." American Sociological Review, 14:584-592, 1949.

*Dean, John P., Robert L. Eichhorn, and Lois R. Dean. "Limitations and Advantages of Unstructured Methods." Issues in Participant Observation. Ed. by McCall and Simmons, Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 19-23.

Trow, Martin. "Comment." Issues in Participant Observation.Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 332-337 (refers to Becker and Geer article)

*Zelditch, Morris, Jr. "Some Methodological Problems of Field Studies." Issues in Participant Observation. Ed. by McCall and Simmons Reading, Mass., Addison Wesley Publishing Company, 1969. pp. 5-18.

Part II: Background materials regarding the philosophy of science.

A. Introduction to issues pertinent to the collection and analysis of qualitative data.

*Kaplan, Abraham. The Conduct of Inquiry. Methodology for Behavioral Science. San Francisco, Chandler Publishing Co., 1964. pp. 3-83, 198-214, 370-397.

B. Explication of the position that no science is value free. Need for recognition and explication of personal biases in the search toward objectivity.

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Wolff, Kurt H. "The Collection and Organization of Field Materials: A Research Report," Human Organization Research. Ed. By R. N. Adams and J. J. Preiss, Homewood, Ill., Dorsey Press, 1960. pp. 240-254.

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*Brown, Roger and Eric A. Lenneberg. "A Study in Language and Cognition." Journal of Abnormal and Social Psychology, 49:454-462, 1954.

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*Dean, J.P. "The Analysis of Insight-Stimulating Examples." Research Methods in Social Relations by Claire Sllitz, Marie Jahoda, Morton Deutsch, Stuart W. Cook. New York, Henry Holt and Co., 1959. pp. 59-65.

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*Jackson, Philip W. Life in Classrooms. New York, Holt, Rinehart and Winston, Inc., 1968.

E. Levels of inferences involved in descriptive data and descriptive synthesis or summarization.

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*Kluckhorn, Clyde. "The Study of Culture." The Policy Sciences. Ed. by Daniel Lerner and H.D. Lasswell. Stanford, Stanford University Press, 1951. pp. 86-101.

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Part VII. Analysis of Qualitative Data

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*Glaser, Barney G. and Anselm L. Strauss. The Discovery of Grounded Theory. Strategies for Qualitative Research. Chicago, Aldine Press, 1967. Chapter III, pp. 45-77.

Kaplan, Abraham. The Conduct of Inquiry. Methodology for Behavioral Science. San Francisco, Chandler Pub. Co., 1964. pp. 294-326

*McCall and Simmons, eds. Issues in Participant Observation. Reading, Mass., Addison Wesley Pub. Co., 1969. Chapter V, pp. 142.

C. Two Techniques of qualitative analysis

*Glaser, Barney G. "The Constant Comparative Method of Qualitative Analysis." Issues In Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 216-228.

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E. Evaluation of hypotheses and credibility of theory.

*Becker, Howard S. "Problems of Inference and Proof in Participant Observation." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 245-254.

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*McCall and Simmons, eds. Issues in Participant Observation. Reading, Mass., Addison Wesley Pub. Co., 1969. Chapter VI, pp. 229-230.

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Goffman, Irving. *Asylums*. Chicago, Aldine Pub. Co., 1962.

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Malinowski, Bronislaw. Argonauts of the Western Pacific. New York, E.P. Dutton and Co., Inc., 1961.

In additon to the readings listed above it is suggested that the student explore case studies listed elseqhere in this bibliography. For example, several qualitative studies dealing primarily with educational issues are listed below for purposes of cross-reference.

Barker, Roger G. and Paul V. Gump. *Big School-Small School.* Stanford, Stanford University Press, 1964.

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B. Strategies for interviewing - some approaches.

*Dohrenwend, Barbara S. and Stephen A. Richardson. "Analysis of the Interviewer's Behavior." *Human Organization*. Vol. 15, No. 2. pp. 29-32.

Gross, Neal and Ward S. Mason. "Some Methodological Problems of Eight-Hour Interviews." Abstract, *The American Journal of Sociology*. Vol. LIV, No. 3, November 1953. pp. 197-204.

*Merton, Robert K. and Patricia L. Kendall. "The Focused Interview." *The Language of Social Research*, Ed. by Paul F. Lazarsfeld and Morris Rosenberg. New York: The Free Press, 1955. pp. 476-489.

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Whyte, William F. "Interviewing in Field Research." Human Organization Research. Ed. by R.N.A. Adams & J.J. Preiss. Homewood, Illinois: Dorsey Press, 1960.

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C. Some techniques and tools for recording qualitative data.

*Barker, Roger G. and Herbert F. Wright. Midwest and Its Children: The Psychological Ecology of an American Town. Evanston, Ill., Row, Peterson & Co., 1954. pp. 195-224.

"Data Recording and Data Retrieval." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969, pp. 73-76.

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Vaugh, Warren J. Jr. and Emelie Faber. "Field Methods and Techniques, The Systematic Observation of Kindergarten Children." Human Organization. Vol. 11, 1952, No. 2, summer 1952. pp. 33-36.

Part IX. Related Methodological Approaches to Qualitative Data Collection and Analysis

A. Survey techniques and qualitative analysis.

Campbell, Donald T. "The Informant in Quantitative Research." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 289-294.

*Sieber, Sam D. "The Integration of Field Work and Survey Methods." New York, Bureau of Applied Social Research, Columbia University, 1969. Prepared for a reading in the Sociology of Education. The Free Press, (forthcoming).

*Vidich, Arthur J. and Gilbert Shapiro. "A Comparison of Participant Observation and Survey Data." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 294-295.

B. Quasi-experimental research designs.

*Campbell, Donald T. and Julian C. Stanley. Experimental and Quasi-Experimental Designs for Research. New York, Rand McNally and Co. Reprinted from the Handbook of Research on Teaching, 1963 by the American Educational Research Association. pp. 34-71.

C. Ecological and "Classical" issues in research.

Gump, Paul V. and Jacob S. Kounin. "Issues Raised by Ecological and "Classical" Research Efforts." Merrill-Palmer Quarterly, 6:145-152, 1960.

D. Observation and psychological tests.

*Mensh, Ivan N. and Jules Henry. "Direct Observation and Psychological Tests in Anthropological Field Work." Issues in Participant Observation. Ed. by McCall and Simmons, Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 303-321.

E. Example of an analysis of complex organizations.

Weiss, Robert S. and Eugene Jacobson. "A Method for the Analysis of the Structure of Complex Organizations." American Sociological Review, 20:661-668, 1955.

Part VIII. Final Reporting

A. Issues related to ethics and politics.

*Becker, Howard S. "Problems in the Publication of Field Studies." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co. 1969. pp. 260-275.

*Cohen, David K. "Two: Politics and Research: Evaluation of Social Action Programs in Education." Review of Educational Research. 40:213-238, April, 1970.

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*McCall and Simmons, eds. Issues in Participant Observation. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 258-260.

*Rainwater, Lee and David J. Pittman. "Ethical Problems in Studying a Politically Sensitive and Deviant Community." Issues in Participant Observation. Ed. by McCall and Simmons. Reading, Mass., Addison Wesley Pub. Co., 1969. pp. 276-288.

*Sjoberg, Gideon, ed. Ethics, Politics and Social Research. Cambridge, Mass., Schenkman, 1967.

Appendix G

Selected Bibliography for A Course on Classroom Research

The references listed below are organized into various categories as follows: Theoretical or philophical analyses of concepts involved in classroom research, review articles and discussions of methodology, non-instrumented studies, some selected research reports and references for reports, evaluation studies including classroom observations, and sources for different substantive concepts for use in describing classrooms. Readings from these categories could accompany the course in classroom research described in the body of the report.

The listings include individual research reports only when these are not listed in Mirrors For Behavior or not widely known. Many of the review articles listed contain excellent biliographies and are readily avaialble if the reader desires sources for studies.

Philosophical or theoretical analyses of concepts and terms used in describing classrooms.

Aschner, Mary Jane. "The Language of Teaching." B. Othanel Smith and Robert H. Ennis, eds. Language and Concepts in Education. Chicago, Rand McNally, 1961 p. 112-126.

Getzels, Jacob W. and Herbert A. Thelem "The Classroom Group as a Unique Social System." National Society for the Study of Education. The Dynamics of Instructional Groups, Fifty-ninth Yearbook, Part II. Chicago, University of Chicago Press, 1960. p. 53-82.

Scheffler, Israel. "Knowledge and Teaching." Conditions of Knowledge. Fairlawn, N.J., Scott, Foresman, and Co., 1965 p. 7-22.

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Swift, Leonard. "Explanation." B. Othanel Smith and Robert H. Ennis, eds. Language and Concepts in Education. Chicago, Rand McNally, 1961. p. 179-194.

Travers, Robert M. "Towards Taking the Fun Out of Building a Theory of Instruction." Teachers College Record, 68:49-60, October, 1966.

Weick, Karl E. "Systematic Observational Methods." Gardner Lindzey and Elliot Arorsun, eds. Handbook of Social Psychology, 2nd ed. Reading, Mass., Addison-Wesley, Vol. II, 1968, p. 357-451.

The Following references comprise an anthology containing the research reports, including analyses systems and coding instructions, of approximately 80 classroom observation systems.

Simon, Anita and E. Gil Boyer, eds. *Mirrors For Behavior*. New York, Research for Better Schools, Vols. I-VI, 1967; Vols. VII-XIV 1970.

Simon, Anita and E. Gil Boyer, eds. *Mirrors For Behavior, Summary*. New York, Research for Better Schools, 1970.

Articles or volumes which emphasize the theoretical and methodological issues in or relevant to classroom observation and research strategies using selected research reports for examples. Includes reviews with good bibliographies.

Baldwin, Clara P. "Naturalistic Studies of Classroom Learning." *Review of Educational Research*, 35:107-113, 1965.

Bellack, Arno A. "Methods for Observing Classroom Behavior of Teachers and Students." Paper presented at the conference on "Methods of Determining Criteria for the Evaluation of Comprehensive Schools." Sponsored by Pedagogishes Zentrum Berlin, November 12-15, 1968.

Biddle, Bruce J. "Method and Concepts in Classroom Research." *Review of Educational Research*, 37:337-357, 1967.

Biddle, Bruce J. and Raymond S. Adams. "Teacher Behavior in the Classroom Context." Lawrence Siegel, ed. *Instruction: Some Contemporary Viewpoints*. San Francisco, Chandler, 1967. p. 99-136.

Biddle, Bruce J. and Elena J. William, eds. *Contemporary Research on Teacher Effectiveness*. New York, Holt, Rinehart and Winston, 1964.

Gage, Nathaniel L., ed. *Handbook of Research on Teaching*. Chicago Rand McNally and Co., 1963.

Gage, M. L. and W. R. Unruh. "Theoretical Formulations for Research on Teaching." *Review of Educational Research*, 37:358-370, 1967.

Greenberg, Selma B. "A Comparative Analysis of Selected Studies of Classroom Teaching." Ed. D. Dissertation. New York, Teachers College, Columbia University, 1966. Typewritten.

Hoetker, William J. and William P. Anlbrand, Jr. "The Persistence of the Recitation." *American Educational Research Journal*, 6:145-167, 1969.

Meux, Milton O. "Studies of Learning in the School Setting." *Review of Educational Research*, 37:539-562, 1967.

Nuthall, G. A. "A Review of Some Selected Recent Studies of Classroom Interaction and Teaching Behavior." Robert Stake, ed. Classroom Observation. American Educational Research Association Monograph Series on Curriculum Evaluation, No. 6, Chicago, Rand McNally, 1970. p. 6-29.

Rosenshine, Barak. "Evaluation of Classroom Instruction." Review of Educational Research, 40:279-300, 1970.

Rosenshine, Barak. "Some Criteria for Evaluating Category Systems; An Application to the Topic Classification System." Robert Stake, ed. Classroom Observation. American Educational Research Monograph Series on Curriculum Evaluation, No. 6, Chicago, Rand McNally, 1970. p. 109-124.

Non-instrumented studies of classrooms.

Henry, Jules. "Attitude Organization in Elementary School Classrooms." American Journal of Orthopsychiatry, 27:117-133, 1957.

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Smith, Louis M. and William Goeffrey. The Complexities of an Urban Classroom. New York, Holt, Rinehart and Winston, 1968.

Selected research reports not reproduced in Mirrors for Behavior

Fey, James T. Patterns of Verbal Communication in Mathmatics Classes, New York, Teachers College Press, 1970.

Gordis, Felice W. "A Piagetian Analysis of the Teaching of Seriation. Concepts in Four Grade Classrooms" Ph.D. Dissertation. New York, Teachers College, Columbia University, 1970. Typewritten.

Lambert, Nadene M., Hugh W. Cox and Carolyn Hartsough. "The Observability of Intellectual Functioning of First Graders." Psychology in the Schools, 7:74-85, 1970.

Gump, Paul J. Classroom Behavior Setting: Its Nature and Relation to Student Behavior, U.S. Office of Education, Final Report, Project No. 2453, 1967. Microfiche No. Ed 015 515

Studies of educational settings which include classroom observations. among the data collected.

Almy, Millie and Associates. Logical Thinking in Second Grade. New York, Teachers College Press, 1970.

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APPENDIX H

This course has been designed on several levels. The overall aim of the session is to prepare individuals for work in research divisions in boards of education. By virtue of previous course work and experience, you have developed, a number of skills relevant to educational research. It is hoped that in this course you will bring these skills and others to bear in order to produce a finished research product.

The organization of exposure is under two headings: One experimental design, will be handled by Mr. Diamond and Mr. Pyrczak. The other section, data management, will be disucssed by Mr. Ashler and Miss Byers. (These are the general emphases only. Each group of instructors will, of course, have specific areas of concern.)

The section on experimental design will be built around individual research projects. Each student will be required to write a proposal for a given project. In addition, a final report will be written following the analysis of data. The proposal and the final report will represent the output from the experimental design section of Education 864. Specific details of these reports and the course sequence will be given during class meetings.

Although Mr. Ashler will be working with the class each day, Mr. Diamond and Mr. Pyrczak will meeting, with the entire class, approximately twice weekly, on the average. At these meetings, special topics of interest will be discussed and students will share their thoughts with other members of the group.

APPENDIX I

OUTLINE OF COURSE 864-II

SUMMER SCHOOL, 1970 - SECOND SESSION

University of Pennsylvania

I. Introduction to computer operations and general programming techniques, using the Datel low-speed terminal

  A. Visit to Computer Center and Dietrich Hall remote terminal

  B. Direct interaction with the computer, using Conversational Programming System (CPS) programs (e.g. like the one in which an individual plays tic-tac-toe with the computer)

  C. Writing of small programs in CPS language (similar to FORTRAN IV)

    1. Get the sum of ten numbers

    2. Generate a Fibonacci series of numbers

    3. Compute the average of a series of positive numbers

    4. Determine the maximum and minimum of that series

    5. Determine the number nearest the mean value of that series

II. Writing and running programs written in FORTRAN IV and running statistical (canned) programs

  A. Characteristics of FORTRAN IV compared with those of CPS

    1. Additional features of FORTRAN IV (e.g. FORMAT statements, array manipulation)

  B. Illustrations of useful techniques

    1. Selecting and combining data, read from two cards per case, to produce "new" information on a single card per case; and simultaneously printing counts and totals

  C. Use of statistical programs, especially BMD's

    1. Preparation of data prior to computer processing

    2. Discussions of debugging methods

    3. "Deciphering" typical program descriptions

D. Basic Job Control Language (JCL) needed to run typical programs-control cards for the operating system

    1. Description of function of each type of system control card

    2. Description of peripheral (disk and tape) data storage

        a. Applications of data retrieval techniques using JCL

    3. Running of multi-step jobs

E. Preparation and submitting of FORTRAN IV jobs using both the low-speed terminal and the (punched) card reader

III. Miscellaneous topics covered

A. Optical Scanning techniques for producing punched data cards from handmarked sheets; e.g. test answer sheets

B. Data reduction techniques for preparing large batches of data for computer processing.

C. Utility programs and their many uses in data handling

APPENDIX J

Tentative Schedule*
Education 864 SSII

University of Pennsylvania

I. Introduction

II. Assignment of projects

  A. Preparation for role playing interview

  B. Proposal outline

III. Planning a research study

IV. Experimental Design and Analysis

V. Overview of Measurement Theory

VI Special Topics

  A. ANOVA

  B. Measurement of Change

  C. Regression

  D. Unit of Analysis

VII. Final report outline

*The order given here is not necessarily the order in which the course will be given. In addition, as each person eowks with Mr. Pyrczak or Mr. Diamond special coverage, suitable to a given project, will be considered.

APPENDIX K

UNIVERSITY of PENNSYLVANIA
PHILADELPHIA 19104

August 7, 1970

Wharton School of
Finance and Commerce

WHARTON COMPUTATIONAL
SERVICES

Mr. Irvin Farber
Room 400
School District of Philadelphia
21st and Parkway
Philadelphia, Pa. 19103

Dear Irv:

As you suggested I am setting forth in this letter some thoughts about the computer course concluded today which was sponsored by the School District for the benefit of a group of trainees.

You already have an outline of the course as presented. As can be seen from that outline, the topics included both programming topics and the use of canned programs and operating system facilities. None of the trainees had prior programming experience; the introduction to programming was, therefore, on a rather elementary level; however, I believe that such important concepts as memory organization, looping and iterative processes, tolerances, etc., were assimilated adequately.

These trainees could now reasonably be expected to write short programs to transform raw data into a form suitable for processing by canned programs. For example, they should be able to arrange for the merging of data on two independent decks of cards. They should also be able to program straightforward computations.

In addition to programming concepts, the trainees were given practice in the use of programs from the Bio-Medical series and the University of Miami library. Data was submitted to these programs both in card form and in the form of files resident on the magnetic disk peripheral memory of the University computing system. The Job Control Language necessary to store and access data on the magnetic disks was discussed, and one may reasonably expect that the trainees could now, with minimal help from a professional programmer, set up computer jobs involving these functions.

Not every aspect of the course was equally successful. It is my feeling that the use of individual interactive terminals early in the course was not justified in terms of the insights obtained thereby. A more structured course organization, particularly during the first week, would probably have been better, inasmuch as there was some tendency on the part of the trainees to flounder and not make as effective use of the time and facilities as was expected.despite the presence of two very competent course assistants to provide abundant individual help and counselling.

In my opinion, any future course of this sort should have a clearly designated daily time allotment, either 9:00 A.M. to Noon or 1:00 P.M. to 4:00 P.M., without interruption.

In view of the time required for most people to master elementary programming concepts, and in view of the degree to which such mastery facilitates the use of system facilities and canned programs, even where no actual programming is contemplated, it is my belief that persons entering a course in the applications of computers to the problems of educational research should have a prior programming background. It would be most desirable that they take a course in a programming language, e.g. Fortran, prior to this course. In future years it might be worth considering the presentation of a course equivalent to Education 865, Mass Data Processing, during the first summer session, and the presentation of a course specifically oriented to the use of computers in educational research during the second summer session. Of course, persons already familiar with a programming language could omit the earlier course.

I intend to prepare some additional materials to be mailed to the trainees. As soon as these are ready, I will send you a copy.

Sincerely yours,

Dan

Daniel Ashler
Director of Computational Services

DA/ac

APPENDIX L

UNIVERSITY of PENNSYLVANIA
PHILADELPHIA 19104

Graduate School of Education
3700 Walnut Street

Educational Research and Service Bureau

August 11, 1970

Dr. Irv Farber
Division of Research
Board of Education
21st & The Parkway
Philadelphia, Penna.

Dear Irv,

Let me put down some thoughts concerning the summer workshop, as you requested.

First, in terms of what the students should be able to do and what was theoretically learned:

1. They should have a basic understanding of statistical inference. By this, I mean, they can define and discuss concepts such as sampling distribution, null and alternative hypotheses, Type I, Type II errors, power, standard error, and so on.

2. They can discuss different types of research, experimental and naturalistic.

3. They have been exposed to the philosophy and rationale underlying analysis of variance, one and two way, interactions, ordinal and disordinal; analysis of covariance. Some people worked on the multivariate analysis of variance on their own. If the course fell down anyplace, it was in the analysis section. This was partly due to my misperception of what these people had been exposed to in the way of background information in statistics.

4. Within the constraint specified in #3, I believe that these people could write a proposal for any research project in which the School District would engage.

5. Other areas discussed: robustness, regression toward the mean, the unit of analysis, and the matching fallacy.

My own feeling is that none of them would be able to function as an Associate, but would be a real asset as an Assistant to somebody of, say, caliber. Maybe my standards are too high.

I would make the following recommendations in the event the workshop is attempted again.

1. Have more examples of actual research and how people handle "pitfalls."
2. Have more communication among students concerning their projects so they can learn from each other.
3. Coordinate efforts between sections to a greater degree.
4. Have a review of basic statistical concepts at the start of the course.

In retrospect, I see that, although we had some of this, there was not enough. I hope this was the sort of thing you had in mind.

Cordially,

James Diamond
Assistant Professor

JD/bh